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POLLUTION OF THE INTERSTATE WATERS OF THE UPPER MISSISSIPPI RIVER. CONFERENCE HELD AT ST. PAUL, MINNESOTA ON FEBRUARY 8, 1964. VOLUME II

Public Health Service
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CONFERENCE

in the matter of

Pollution of the Interstate Waters of the UPPER MISSISSIPPI RIVER

VOLUME II

St. Paul, Minnesota

February 8, 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Washington, D.C.

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Conference in the Matter of Pollution of the Waters of the Upper Mississippi River and its Significant Tributaries, Minneapolis-St. Paul Metropolitan Area (Minnesota-Wisconsin) on Saturday, February 8, 1964, at 9:30 a.m., in the State Capitol Office Building, St. Paul, Minnesota.

PRESIDING:

Mr. Murray Stein, Chief, Enforcement Branch, Water Supply and Pollution Control, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D. C.

PRESENT:

(As heretofore noted.)

PROCEEDINGS

MR. STEIN: May we reconvene?

For the Chair, at least, may I say that we are going to make every effort to get through as rapidly as possible. Rest assured that we want to hear everyone, and everyone will be heard. We will take what you say and give it very, very careful consideration, and it will be, I am sure, an aid to us in coming to conclusions.

I can see by this group of people who are here on a Saturday morning what the interest in this problem is. I certainly appreciate you people staying over and coming on Saturday.

Next on the agenda is the State of Wisconsin, and we would like to call on Wisconsin for its presentation. Mr Muegge.

MR. MUEGGE: We would like to call on Mr. Castagna, Engineer with the Committee on Water Pollution.

STATEMENT OF S. CASTAGNA, ENGINEER, WISCONSIN COMMITTEE ON WATER POLLUTION

MR. CASTAGNA: Mr. Chairman, ladies and gentlemen: I have here a summary of a report on the water pollution control practices for the State of Wisconsin and the summary of the Wisconsin side and the water tributaries to the Mississippi River and the St. Croix, from about Hudson down to about Lake Pepin.

Wisconsin has been active in the field of sewage treatment from the time when the first municipal plant was constructed in 1894 until the present time, when we have about 400 plants serving public systems as well as numerous smaller treatment works serving institutions and privately owned establishments. The State of Wisconsin had the first trickling filter plant in this country and the first heated sludge digestion tank. Much of the pioneering work in development of the activated sludge process was also performed in Wisconsin, and as you might know, mostly in the City of Milwaukee.

Since sewage disposal has historically been recognized as a health problem, the Wisconsin State Board of Health has been interested in proper handling of sewage since the agency was established. Creation of the Bureau of Sanitary Engineering in 1919 made possible increased efforts, as did establishment of district offices and filling district engineer positions in 1936.

Chapter 144 of the Statutes places responsibility for supervision of sewerage systems in the State Board of Health. Subsection 144.03(1) gives the State Board of Health general supervision and control over waters of the State, water supplies, water systems, sewage and refuse disposal and several other items. The State Board of Health is authorized by Subsection 144.03(2) to investigate all systems and plants and keep complete records. Subsection 144.03(3) provides that if the Board finds that a system or plant is tending to create a nuisance or menace to health or comfort, it shall order such operating results to be secured as the Board shall prescribe within a specified time. If the Board finds that the absence of a municipal system or plant tends to create a nuisance or menace to health or comfort, it may order a corrective system to be constructed. Section 144.04 provides that construction of a system or plant may not proceed without first having had plans approved by the State Board of Health. The Board is authorized to require connection of the system of one municipality with that of another under Section 144.07. Section 144.09 provides for the keeping of records of plant operation by owners; and the agents of the State Board of Health are allowed to enter the premises of treatment works for the purpose of observing and testing.

Review and approval of plans are carried out by the Section on Sanitary Engineering in the central office. The eight district engineers maintain general supervision over plant operation. During their periodic inspections they advise the operators on correct procedures, desirable improvements, laboratory techniques, maintaining records and other related work. Each plant is required to submit monthly reports of daily operating records to the district office where they are reviewed by the district engineer and then forwarded to the central office.

In addition to the contacts made by the district engineers, further training of operators is carried on by the State Board of Health in cooperation with other agencies by conducting a short course for sewage works personnel every two years. This course consists of three days of lectures, laboratory sessions and panel discussions. The 1963 short course was attended by 185 operators. Cooperating with the State Board of Health in this program are the University of Wisconsin, the Conference of Wisconsin Sewage Works Operators, and the League of Wisconsin Municipalities.

In cooperation with these agencies a voluntary program for certification of sewage works operators has been in effect since 1955. There are presently 208 operators certified in one of four grades.

Sewage Treatment Progress

A brief review of the activity of sewer system and treatment works construction in Wisconsin is of interest. In 1920 a population of 1.2 million persons was served by public sewer systems, with 17 percent of this population receiving the benefit of sewage treatment. By 1930, 55 percent of the sewered population had treatment service; in 1940 it was 89 percent; in 1950 it was 92 percent. We now have approximately 2,664,000 persons served by public sewers and all but about 2,700, in six communities, receive the benefit of treatment. Plants are under construction or will be under construction shortly to reduce this figure to less than 500.

Sewage Treatment Plants
Mississippi River Conference Area

Along the section of Mississippi River under survey for this conference there are two Wisconsin municipalities which have public sewer systems. The separate systems of these communities lead to adequate treatment plants.

The City of Prescott, Wisconsin, with a population of 1,536, provides primary treatment and chlorination and discharges to the Mississippi River a treated effluent with a population equivalent of 945.

The Village of Pepin, Wisconsin, with a population of 795, provides primary treatment and discharges a treated effluent with a population equivalent of 515.

St. Croix River

In the area surveyed the City of Hudson, Wisconsin, provides a complete treatment plant plus chlorination to serve the connected population of 4,110 of Hudson and North Hudson. This plant discharges to the St. Croix River a treated effluent with a population equivalent of 822.

Wisconsin does not have the concentration of industries along the Mississippi waterways. Where it does, the wastes are probably discharged into sewage treatment plants.

S. Castagna

Industrial Wastes

Wisconsin industries discharging wastes to surface waters are under the surveillance of the Committee on Water Pollution. The committee is empowered by statutes to exercise general supervision over the administration and enforcement of all laws relating to the pollution of the surface waters of the State and has the power to make and enforce rules and regulations, hold hearings, issue orders, and execute whatever is reasonable and proper to control pollution of the surface waters of the State.

One Wisconsin industry discharges wastes to the St. Croix River in the area surveyed. The United Refrigerator Company discharges neutralized metal processing wastes to the St. Croix River. That is at Hudson.

Stream Surveys

Appended to this report are tabulations of analyses of monthly stream monitoring samples collected at the Highway 10 crossing of the St. Croix River at Prescott. That is just at the confluence of the St. Croix and Mississippi Rivers. Analyses of samples collected during

1961, 1962 and 1963 establish that the St. Croix River is a clean stream in every respect.

Interstate Joint Resolutions

The resolutions setting forth the recommended minimum degree of treatment for wastes to be discharged to the St. Croix River and to the Mississippi River are attached.

The requirements of these resolutions have been met by Wisconsin communities and industries.

Conclusion

It can be concluded that Wisconsin municipalities and industries in the area surveyed have provided adequate facilities for treatment of wastes and their treated wastes are not adversely affecting the waters of the area.

(The charts attached to Mr. Castagna's statement are as follows:)

Source: St. Croix River Highway 10 Bridge at Prescott Year: 1961-1962

Date	LABORATORY ANALYSIS																	FIELD DATA		
	Alkalinity Phth. ($CaCO_3$)	Alkalinity Total ($CaCO_3$)	Bacteriological (M.P.N.) per 0.1 ml.	B.O.D. (5-Day)	Chlorides	Color	Hardness (Total)	Nitrogen: Total Organic	Free Ammonia	Nitrates	pH	Phosphorus (Total)	Phosphorus (Sol.)	Solids: Total	Volatile	Solids: Suspended	Volatile	D.O.	pH	Temperature (°C.)
1961																				
4-11	0	89	.24	2.5	4.0	25	92	.35	.14	.32	7.5	.20	.03	132	52	6	2	10.6	6.8	3
5-29	0	44	.043	1.4	0.0	110	50				7.2			102	58	4	1	7.7	6.9	16
6-29	0	78	.023	2.3	0.0	50	80				7.8			132	60	10	5	8.6	8.0	25
7-30	8	96	.210	4.1	0.0	30	98	.44	.00	.06	8.8	.12	.02	140	68	7	5	9.1	8.2	26
8-31	0	94	.93	2.6	0.0	30	102				7.0			136	72	2	2	7.5	7.9	24
9-24	0	100	.43	1.2	0.0	35	100				7.8			154	62	27	14	5.9	7.6	18.0
10-29	0	98	.150	-	0.5	15	110	.34	.36	.30	7.5	.14	.08	170	52	7	2	7.9	7.6	12.0
11-26	0	103	.093	2.3	0.0	13	108				7.6			154	64	8	1	12.1	7.8	5.0
12-26	0	100	.430	9	0.0	25	110				8.0			158	64	5	4	12.35		1.5
1962																				
1-22	0	107	.24	1.1	4	20	156	.36	.13	.48	7.2	.06	.03	146	64	3	3	11.1	7.2	0
2-18	0	110	.430	2.0	0.0	16	114				7.1			162	70	9	4	9.5	7.2	0
3-21	0	115	.91	<.5	0.0	12	118				7.2			148	62	2	2	7.5	7.3	2
4-24	0	57	.43	3.1	0.0	58	64	.83	.11	.02	7.2			106	24	6	1	10.4	7.1	7
5-24	0	59	3.6	1.9	0.0	73	70				7.5			130	56	6	6	7.1	7.3	1.8
6-28	0	72	12	2.1	0	110	76				6.75			118	46	7	5	6.7	7.5	25
8-1	0	78	<.360	1.3	0.0	55	84				7.05			134	56	10	7	7.5	7.7	24
9-11	0	96	.210	1.2	<.05	35	96	.58	.36	.08	7.5	.12	.03	144	62	8	5	5.2	7.5	20
10-2	0	88	[illegible]	1.7	0	25	96				7.2			142	50	7	2	8.0	7.7	18
11-6	0	53	.30	0.9	0	30	96				6.4			132	50	2	0	9.2	7.5	10
11-29	0	100	.430	0.8	0	25	98	.54	.17	.32	7.30			132	56	6	5	10.7	7.5	5
12-27	0	108	.150	0.9	0	18	108				7.90			158	62	4	4	13.3	7.7	0
Mean		88		1.9	.40		96	.49	.18	.22		.12	.03					8.95		
Max.	8	115	12	4.1	4	110	156	.83	.36	.48	8.8	.20	.08	170	72	27	14	13.3	8.2	26
Min.	0	44	.023	<.5	0	12	50	.34	0	.02	6.4	.06	.02	102	24	2	0	5.2	6.8	0

D.B. 27

Source: St. Croix River Highway 10 Bridge at Prescott Year: 1963

	LABORATORY ANALYSIS																	FIELD DATA			
Date	Alkalinity Phth. ($CaCO_3$)	Alkalinity Total ($CaCO_3$)	Bacteriological (M.P.N.) per 0.1 ml.	B.O.D. (5-Day)	Chlorides	Color	Hardness (Total)	Nitrogen: Total Organic	Free Ammonia	Nitrates	pH	Phosphorus(Total)	Phosphorus (Sol.)	Solids: Total	Volatile	Solids: Suspended	Volatile	D.O.	pH	Temperature (°C.)	A.B.S.
1-30	-	117	2.4	0.7	1.5	10	120				7.70			162	80	5	5	12.1	6.9	0	< 0.03
3-5	0.0	124	.390	0.6	0.5	10	126				7.6			168	18	3	2	9.8	7.3	0	0.06
3-26	-	120	46	0.7	0.5	13	122				7.4			198	22	55	17	7.8	7.3	1	< 0.03
4-24	-	72	.091	2.0	1.0	30	84				7.70			114	48	5	5	10.5	7.4	9	< 0.03
6-6	-	72		1.5	0.0	65	78				7.55			126	72	7	4	7.8	7.4	23	0.10
7-10	0.0	110	1.5	3.8	0.0	65	110				8.2			180	78	24	12	10.3	8.7	25	0.10
7-31	-	108	15	2.3	0.0	50	124				8.1			180	76	7	2	6.2	7.9	26	0.08
9-4	-	102	.220	1.6	0.0	30	104				8.15			144	60	1	1	7.3	8.1	21	<0.03
10-16	-	96		2.0	1.5	25	114				7.30			154	60	5	5	7.0	7.4	18	<0.03
11-12	-	109	.430	2.0	2.0	10	112				7.85			146	52	5	3	8.2	7.3	4	0.03
12-4	0.0	112	.230	1.1	0.5	15	112	.35	.26	.28	8.0	.12	.05	136	60	6	3	10.4	7.3	4.5	<.03

JOINT RESOLUTION

MINNESOTA WATER POLLUTION CONTROL COMMISSION
AND
WISCONSIN COMMITTEE ON WATER POLLUTION

WHEREAS, the Mississippi River is an interstate stream bounding the States of Minnesota and Wisconsin and pollution thereof originating in one state may adversely affect public health and public rights in the adjoining state, thus creating problems of common interest and requiring correction by said states;

WHEREAS, sewage and industrial wastes now discharged into the river and its tributaries does or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish or other aquatic life; and

WHEREAS, protection of public health and preservation of public rights demand that said waters shall be made suitable for all normal legitimate uses; now, therefore, be it

RESOLVED, that the Minnesota Water Pollution Control Commission and Wisconsin Committee on Water Pollution, each does hereby agree to require the correction of existing and prevention of additional pollution within the boundaries of its state to the end that said waters may be maintained or rendered suitable for all purposes heretofore defined and that in the attaining of these objectives the guiding policy shall be the requirement that facilities for treatment of sewage and for industrial wastes shall provide at least effective sedimentation or equivalent, substantially complete removal of floating solids or liquids, and reduction of toxic materials to less than lethal limits for aquatic life, with the understanding that additional or special type treatment be required in those areas where water uses so dictate; and be it further

RESOLVED, that adoption of this resolution by the water pollution control agency of each state shall be evidenced by the signature of its executive officer.

Dated this 11 day of August, 1953.

Minnesota Water Pollution Control Commission

A J Chesley, M.D., Secy

Wisconsin Committee on Water Pollution

Theodore F. Wisniewski, Director

JOINT RESOLUTION

MINNESOTA WATER POLLUTION CONTROL COMMISSION
AND
WISCONSIN COMMITTEE ON WATER POLLUTION

WHEREAS the St. Croix River is an interstate stream common to the States of Minnesota and Wisconsin and pollution thereof originating in one state does or may adversely affect public health or public rights in both states, thus creating a problem of common interest and requiring correction by said states; and

WHEREAS sewage and industrial wastes now discharged into said river and its tributaries do create or are likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wildlife, fish or other aquatic life; and

WHEREAS protection of public health and preservation of public rights demand that said waters shall be made suitable for legitimate uses; now, therefore, be it

RESOLVED, that the Minnesota Water Pollution Control Commission and Wisconsin Committee on Water Pollution each does hereby agree to require the effective correction of existing pollution and prevention of additional pollution within the boundaries of its state as provided by the laws of such state to the end that said waters may be maintained or rendered suitable for all purposes heretofore defined and that in furtherance of said objectives the guiding policy shall be the requirement that facilities for treatment of sewage for all sewered municipalities shall provide at least effective sedimentation plus chlorination, with such design of treatment plants that secondary or other higher degrees of treatment may be added as conditions may require, and that facilities for treatment of industrial waste shall provide the most effective treatment warranted by conditions in each case with the understanding that additional or special type treatment be required where water uses so dictate; and be it further

RESOLVED, that adoption of this resolution by the water pollution control agency of each state shall be evidenced by the signature of its executive officer.

Dated this 11 day of August, 1953

Minnesota Water Pollution Commission
AJChesley, M.D. Secy

Wisconsin Committee on Water Pollution
Theodore F. Wisniewski, Director

MR. MUEGGE: Mr. Castagna, these resolutions that you referred to are the interstate resolutions, agreements that have been made between the water pollution control agencies in the two States?

MR. CASTAGNA: Both Minnesota and Wisconsin.

MR. MUEGGE: Yes.

We would like to submit this report to be included in the transcript as if read in its entirety.

MR. STEIN: That is understood.

Are there any other representatives of Wisconsin you would like to call on?

MR. MUEGGE: Yes. We have Mr. Howard Krauss.

MR. STEIN: By the way, are there any other questions?

MR. SMITH: Yes.

MR. STEIN: Pardon me. I am sorry. Mr. Castagna, will you come back?

MR. SMITH: You stated in the report that the Wisconsin communities have provided adequate treatment. This is based on the fact that the populations served are small and you feel primary treatment is sufficient?

MR. CASTAGNA: These are the requirements on the Mississippi. It is not the adequate requirements on the Mississippi River.

MR. SMITH: I would also like to refer to the tabulations, the first table is attached to the report.

Under 1961, 12-26, you have a five-day BOD of 9. Could this be a typographical error?

MR. CASTAGNA: No. You mean, it doesn't have the 9.0?

MR. SMITH: It doesn't have a 9.0, and I wondered if the decimal point should make it a .9. A value of 9 is higher than we have found, to my recollection.

MR. CASTAGNA: That I am not exactly sure about, Mr. Smith.

MR. WISNIEWSKI: Mr. Smith, I can clarify that. It is apparently a typographical error, because, if you will look at the bottom of the page, we have the mean, the maximum and the minimum, and the maximum is listed as 4.1 and the minimum at less than .5, so that that must be a typographical error.

MR. SMITH: Yes. Also, the differences in the pH as determined in the laboratory and in the field, I noticed, are very considerable.

MR. CASTAGNA: Probably the temperature might have some effect on it.

I notice that when I take samples of pH, we use a standard colorimetric method, and this colorimetric method may be affected sometimes by the color of the waste, and in the laboratory they have an electronic pH meter, which may account for the difference.

MR. SMITH: That is all I have.

MR. STEIN: Mr. Poston?

MR. POSTON: I note that on the first page here, the State Board of Health has the responsibility for inspection of waste treatment works and that you receive operating results. I would just like to ask the question whether or not you feel that you have an ample budget and ample personnel to do the job that you think is necessary with respect to inspection and operation of treatment plants?

MR. CASTAGNA: I think I would like to refer that to Mr. Muegge, our State Sanitary Engineer, if I may.

MR. MUEGGE: Are you referring to the region in question here, or to the entire State, Mr. Poston?

MR. POSTON: Well, I think we are primarily interested in the region here along the Mississippi River, the area that affects the Mississippi River. This is what I would be most interested in.

MR. MUEGGE: Well, I think our District Office is sufficiently staffed in that area to provide the necessary surveillance over sewage treatment plants along the St. Croix and Mississippi Rivers.

MR. STEIN: Are there any further comments or questions?

MR. WILSON: That is a relatively sparsely settled portion of the State, is it not, Mr. Muegge?

MR. MUEGGE: Well, it includes seven or eight counties -- I don't know exactly how many. The area extends from Superior down to below Clara. It is a large area, but, well, generally not too heavily populated.

MR. WILSON: Do you have enough staff to provide systematic periodical inspections as to the operation of all sewage treatment plants in this area, or any part of the State?

MR. MUEGGE: In that particular area, I think we do. In some of the other parts of the State, we do not have sufficient personnel.

MR. WILSON: But at least as far as this area is concerned, the density of population and the number of plants is rather small compared with the eastern part of the State, so in that area you would have enough staff to give the plants adequate inspection?

MR. MUEGGE: Yes, we believe that to be correct.

MR. WILSON: All right.

MR. POSTON: Those are all the questions I have.

MR. STEIN: By the way, I just have one question now.

In view of the fact that this is sparsely populated and you do have enough people to check the plants, do you also have enough people to check the quality of the river to find out what is happening in the river going down there?

MR. WISNIEWSKI: I think the tabulations in here testify to that fact. We have a regular monitoring program in the area, and this is only one of the stations. There are something like 37 stations in the State that we monitor, which gives us adequate coverage for our purposes.

MR. STEIN: You mean you have one station on this river?

MR. WISNIEWSKI: Oh, no. This is the one station down at the mouth where it discharges into the Mississippi River, and that is what we were concerned with.

MR. CASTAGNA: We also sample at La Crosse and at Dubuque, Iowa, along the Mississippi.

MR. WISNIEWSKI: I might point out to Mr. Stein, from the name of our agency, we are called the Committee on Water Pollution, and so we are very much interested in the polluted streams, and we have a pretty good amount of clean water up in this area. We are not bothering with collecting samples of clean streams. We use our personnel to check on the polluted ones.

MR. STEIN: That is what I would expect you would do.

Are there any further questions or comments?

(No response.)

MR. STEIN: Mr. Krauss.

STATEMENT OF HOWARD KRAUSS, MEMBER, ADVISORY COMMITTEE TO THE WISCONSIN DEPARTMENT OF RESOURCE DEVELOPMENT

MR. KRAUSS: Mr. Chairman, members of the panel:

My name is Howard Krauss. I am a lifelong resident of Pierce County in Wisconsin, a county bordering on the Mississippi River. I serve as a member of the Advisory Committee to the Wisconsin Department of Resource Development, also as a member of the Executive Committee of the Wisconsin Council of Resource Development and Conservation, and as the Director of Field Services for the Wisconsin Farmers Union, an organization with many land-owning members in the Mississippi River watershed.

Wisconsin's citizens are increasingly aware and informed on the serious developing water and pollution problems. This is evidenced by Wisconsin's passage of the first legislation banning the sale of non-degradable detergents in the nation, also by passage of several other pieces of important legislation on pollution and zoning.

Isolated instances of extreme or accidental contamination of a lake or stream always cause local concern, also some radical approaches and comments. However, I feel it is truthful to say that more and more Wisconsin people are concerned about pollution and that an increasingly high percentage of Wisconsin people are determined to see reasonable, constructive efforts put forth to improve conditions.

Wisconsin's citizens are concerned with water pollution in a general way or as it affects them. Our residents of western Wisconsin are especially concerned with the problems of the Mississippi River. Often much of the incensed feelings displayed and the extreme criticisms by people of western Wisconsin which is directed at our good neighbors in Minnesota concerning Mississippi pollution, comes from lack of understanding of the immense problems involving a metropolitan area. These people may not be entirely familiar with the similar problems and conditions we have in the Milwaukee and Fox River Valley areas of Wisconsin.

The matter of how fast and to what a great extent the polluted conditions of the Mississippi River have increased over a period of the last three or four decades is what is so alarming and causes concern to those familiar with conditions. Many of our people feel that the economic motives of industry in the Twin Cities area may be the most serious retarding factor in the failure to attain suitable progress.

H. Krauss

Cleaning up a river 1,400 miles long is certainly not a job for local municipalities or even States unless directives are implemented and compliance assured by the Federal Government. Pollution of the Mississippi River is destroying a great asset of this nation and the individual States bordering it. Not only is the entire recreation potential in jeopardy, but under a continuation of present conditions destruction of fish and wildlife is imminent. Surely, cities downriver who must use the water have a right to expect constructive progress toward improvement.

Just as pure, clean water is the source and sustaining force of life, health, and cleanliness, so contaminated water is the source of death and destruction. The contamination of our diminishing supplies of fresh water is one of the scandals and one of the serious crises of our time; for surely it is true that the measure of a nation's greatness can be determined by how well it provides for the protection of its citizens' health and welfare. The survival of our nation depends upon the adequate solution to our water problems.

It is my opinion, having worked and working with the various departments in the State of Wisconsin, that the finest cooperation from various Wisconsin State agencies involved in the important undertaking of correcting the

Mississippi River conditions can be expected. Wisconsin people are leading the nation in efforts to preserve and promote clean water. We are initiating and enforcing programs to clean up the polluted conditions of our metropolitan areas and the entire State. We have passed legislation with teeth in it. We expect our Minnesota neighbors to do the same.

It has been said that some Federal assistance would be welcome. I think that Federal assistance would help. I do think that some Federal assistance might help get the job corrected.

I might also say that you can get a lot of political hay from 10,000 dead ducks, but I have also found that election time is promise time, and after election time is alibi time.

I think that right now the people of Wisconsin and Minnesota think it is action time.

Thank you.

MR. STEIN: Mr. Krauss, thank you.

Do you have any comments or questions?

DR. HARGRAVES: No, I think not.

MR. STEIN: Are there any from Wisconsin?

MR. WISNIEWSKI: No.

MR. STEIN: Mr. Krauss, would you just wait a moment, please?

MR. KRAUSS: Yes, sir.

MR. STEIN: I should point out that big rivers sometimes can be cleaned up. Mr. Chester Wilson was with us on this effort on the Missouri River, where, in 1955 or 1956, not one major city had a treatment plant, and they all had water intakes downstream. Now they are either under construction or completed, with plants at Omaha, above that at Sioux City, St. Joseph, Council Bluffs, Atchison, Leavenworth, the Kansas City area, and in St. Louis, so this really can be done in a river. The question is to take the segments one by one.

I might also say that there is one thing about this Federal procedure. It is inexorable. It goes, and this does not deal with election time or in-between time. It moves, I think, and this may be one of the problems of the resistance to it.

I take it then that you don't share the view that the Mississippi River here is really clean water and that we should take our samples somewhere else, where there might be dirty water?

MR. KRAUSS: I do not. I might say that the people of western Wisconsin, as I mentioned, may not be aware of the problems involved in the metropolitan area, and

I have been embarrassed sometimes by how incensed they become at some of the various meetings we might have on reciprocity of fishing and hunting regulations, and so forth.

But we do hope that improvement can be attained, and as soon as possible. We think it is very, very important.

MR. STEIN: Thank you, sir.

MR. MUEGGE: May I ask the Chairman whose view he was referring to when he asked the question of Mr. Krauss?

MR. STEIN: I was asking from Mr. Krauss' view.

MR. MUEGGE: Would you read his question?

MR. STEIN: I think I know it. I said, I take it you don't share the view. I was just thinking editorially, that there might be a view like that. I wasn't referring to anyone's view.

MR. SMITH: Might I ask the Chairman what degree of treatment will be provided at Omaha, St. Joseph and Kansas City?

MR. STEIN: The requirement there is to put in primary treatment and determine how primary treatment operates.

If that does not achieve the result, then there will be the consideration of putting in secondary treatment, and further measures will be in order. These cities, as you know, had absolutely no treatment at all.

MR. SMITH: In other words, sir, there will be or it may have under construction the type of facility that the Minneapolis and St. Paul area has had since 1938?

MR. STEIN: Well, this hasn't come in yet since Minneapolis and St. Paul. I am just assuming that is so. This very well may be true.

I think again, since this has been brought up, it might have been part of the discussion, but I think the point is very well taken, Mr. Smith. Where you have a situation where no treatment is being provided, you can run a relatively simple survey and come up with a plan for remedial action by telling all these major polluters who are doing nothing that treatment has to be provided.

However -- and this, Mr. Krauss, you are absolutely right on -- the major problems we have are in most of our big metropolitan areas. You are not unique in the Minneapolis-St. Paul area. We have the same problem in all the big metropolitan areas.

Where our treatment is being provided and the people of the region still believe that the streams are not being used to their maximum effectiveness, we have a much more subtle problem than in the areas where they are not providing any treatment at all. As a matter of fact, for the regulatory agency it is a lot more expensive.

H. Krauss

You can't just go out and say broadly, "Put in treatment and start with primary treatment, and we will see if we need more." You have to analyze with particularity precisely where the waste is coming from. Some people may very well have adequate treatment now. Some sources may have plans for adequate treatment in the future. Some sources may not have. Those are the ones you have to get after. Some places may have adequate treatment facilities which are, for one reason or another, not being operated at reasonable efficiency 365 days in a year. This has to be looked at, and this is a very hard problem to get at, because, generally speaking, when you are dealing with a utility, such as an electric utility, for example, there has to be enough juice for the lights to go on at four o'clock on the winter afternoon when the men are in their offices turning the lights on, and the ladies are putting their appliances on at home. If you turn the switch and the lights don't go on, then complaints begin pouring in.

However, in a waste treatment plant, if something is by-passed or it doesn't work, who knows about it unless someone is out there monitoring it? So, I would say, Mr. Smith, you have put your finger on precisely the problem, I think, because you are this far ahead, and we may have a much more difficult and subtle problem in this area.

MR. WILSON: Mr. Chairman, in view of the comments that you have just made, I would like to ask Mr. Krauss a few questions, if he would please take the stand again?

MR. STEIN: Surely.

MR. WILSON: Mr. Krauss, did you ever see the Mississippi River as it was before the Twin Cities sewage treatment plant was constructed in 1938 and the South St. Paul sewage treatment plant constructed in 1940, when it was in the filthy condition of an open sewer? Did you ever see the river at that time?

MR. KRAUSS: Yes, sir, I did.

MR. WILSON: Then you know how it was and you will be able to answer my questions about the comparison.

There was very substantial improvement in the condition of the river after those two plants were constructed, was there not?

MR. KRAUSS: I would have to put it this way: I am sure there was. I fished the river much as a boy and through the years. Some things changed after the dams were put in the river. There was not the amount of floating debris that floated away down into Lake Pepin, and the ponds formed by the Hastings Dam and the Red Wing Dam seemed to catch a lot of the floating debris. But I am sure that the water was much improved, and in a much better condition, after treatment was used.

MR. WILSON: Those channel dams went into operation about the same time, did they not? That is, the Red Wing Dam went into operation, I believe, in 1939, did it not?

MR. KRAUSS: Something like that. I don't know exactly.

MR. WILSON: So that the completion of the entire channel dam system involving 26 dams between the Twin Cities and St. Louis went into operation just about the same time these two towns got their sewage treatment plants completed, and the completion of those plants operated to relieve a lot of the filthy stuff that went down the river and would have been caught by those dams if it had not been for the construction of those plants.

So that is there any question at all but that after those plants went into operation, all the people on both sides, Minnesota and Wisconsin, enjoyed a great deal better conditions in the river than they had before?

MR. KRAUSS: I think that this was a vast improvement.

MR. WILSON: We are not claiming that it was perfect, by any means, but it was a vast improvement?

MR. KRAUSS: Right.

MR. WILSON: And all through Pool No. 3 and all the pools down the river, there has been a lot of fishing and public recreational use of that water?

MR. KRAUSS: I would agree with you, except to say that the last few years the conditions have been becoming extremely worse.

MR. WILSON: You took the words out of my mouth.

(Laughter.)

MR. KRAUSS: I don't know. You people are the technicians, and you have the staff to find these things out.

I speak only as a citizen and, like you say, you have to find out where these things come from. I don't know if they come from refineries; I don't know if they come from packing plants; I don't know where they come from; but I know they are there and I know that the oxygen content of the water must be dropping. I don't even test it, but I know the game fish aren't there.

MR. WILSON: Well, you have answered my next question already.

MR. KRAUSS: Thank you.

MR. WILSON: The present condition with which we are confronted results from the overloading of the capacity of those plants, which, within the last ten years, has produced an admitted degradation of the water quality; but inasmuch as you remember the conditions that prevailed when the Mississippi River was a filthy open sewer, would you say that it has now become ~~not~~ that bad?

MR. KRAUSS: I would say that this part of the condition and the floating debris that used to come down into Lake Pepin is much, much improved.

MR. WILSON: Even now?

MR. KRAUSS: Yes.

MR. WILSON: So that what we --

MR. KRAUSS: I am not talking about oil. About other types of debris.

MR. WILSON: So that what we have to deal with is a condition of depreciation of the improvement that was obtained for quite a few years after those plants were constructed.

MR. KRAUSS: But, you see, I have never known if the disposal plants stopped the refuse from floating down, or if the ponds created by the dams did this, caused a settling point. I mean, this is also something for you to answer.

MR. WILSON: I think that was very clearly brought out by Mr. Rademacher yesterday. His analysis of the river conditions disclosed very serious deterioration of the water quality, but there was no report of any serious amount of floating debris, or that kind of stuff that used to go down as the raw sewage and packing plant wastes.

MR. KRAUSS: If I might make one additional short statement, Mr. Chairman?

MR. STEIN: Yes.

MR. KRAUSS: In Wisconsin, I think that we have found this: That we did have a hard time to get compliance and correction of some of our problems, some years back, but we have had an extensive program of educating our people through the various news media, sportsmen's clubs, and in various ways, until our people in Wisconsin are very conscious of pollution. We have passed some very, very good legislation with teeth in it, and our people are demanding enforcement.

Mr. Wisniewski doesn't go out and say, "What are you going to do about it?" He tells them. He orders them, and this is because our people feel this way.

Thank you.

MR. WILSON: Just a minute, Mr. Krauss. I might say that we folks over here in Minnesota have frequently pointed to Wisconsin as an outstanding example of leadership in water pollution, in an effort to get our legislature to do the same as yours.

However, you referred to the fact that many of your people in western Wisconsin don't understand the problems that you have had to deal with over around Milwaukee and the Fox River Valley, with which I happen to be somewhat familiar.

MR. KRAUSS: Right.

MR. WILSON: You went through more or less the same process over there, didn't you? That is, they built sewage treatment plants in the early days, and they operated fine for quite a while, and then they became overloaded and you had the same struggle to get that condition corrected that we are now facing here in the Twin Cities area. We probably can profit by your example in dealing with that problem.

MR. KRAUSS: We would hope so.

Thank you.

MR. STEIN: Thank you very much, Mr. Krauss.

MR. MUEGGE: I would like to call on Mr. Hanson. I assume Mr. Hanson is a Scandinavian and should be right at home here.

MR. HANSON: Danish.

STATEMENT OF MARTIN HANSON, PRESIDENT, WISCONSIN COUNCIL OF RESOURCE DEVELOPMENT AND CONSERVATION

MR. HANSON: My name is Martin Hanson, Mellen, Wisconsin, President of the Wisconsin Council of Resource Development and Conservation, an organization of groups and clubs in Wisconsin banded together to promote the wise use of our natural resources.

The Mississippi River is the largest river basin in this country and offers tremendous scenic and recreational opportunities that should not be diminished by unnecessary water pollution. The Mississippi should be kept as clean as possible to insure all values, such as swimming and the like.

Wisconsin has long striven to protect its water resources. Our State has passed legislation banning the sale of non-degradable detergents by the end of 1965. Our legislature has been considering two other bills, among others. One seals boat toilets, the other prohibits refuse disposal in flood plains. Obviously, such regulations mean little on interstate waters if a neighboring State does not also prohibit these actions.

We have to stick together on pollution control and each State must have some assurance that they are not bearing a disproportionate share of the load. Pollution abatement costs money. To insure that industry and citizens of each State are treated fairly, we need national standards, established by the Federal Government, with State help and advice. To this end, passage of the Federal Water Bill S. 649 would be a big step forward.

In our society today, we can afford the dollars to clean up water and make this a decent world to live in.

MR. STEIN: Thank you, Mr. Hanson.

Are there any comments or questions?

MR. SMITH: I would like to know: Does your Wisconsin law require the sealing of all boat toilets?

MR. HANSON: The statement said that we were considering these two bills.

MR. SMITH: Thank you.

MR. STEIN: Are there any further comments or questions?

MR. POSTON: No questions.

MR. STEIN: Thank you very much. I know you have waited a long time, and we thank you for your forbearance.

MR. MUEGGE: Mr. William Ruth, please.

STATEMENT OF WILLIAM RUTH, PRESIDENT, WISCONSIN FEDERATION OF CONSERVATION CLUBS

MR. RUTH: My name is William Ruth and I am the President of the Wisconsin Federation of Conservation Clubs.

The Wisconsin Federation of Conservation Clubs is a statewide organization of affiliated conservation clubs with an estimated membership of over 60,000 individuals and is the Wisconsin affiliate of the National Wildlife Federation.

We consider the prevention and control of water pollution the most serious problem facing us today and we will always support the enactment and enforcement of better anti-pollution laws, both national and State.

We believe that we cannot continue to contaminate and pollute our land and water the way we are doing at the present time.

When we check back over 1963 and add up the list of unexpected major pollution accidents we find that here in the Midwest we really had a banner year.

It started with the oil pollution in the

Mississippi. In early fall a pond of acid broke out and polluted the Oconto River at Oconto, Wisconsin. A short time later forty miles of the Embarrass River in Illinois was contaminated with cyanide. Also this fall thousands of gulls along with some loons and ducks died in Lake Michigan. We suspect that pollution in the Great Lakes may be responsible for this. Either from poison or a pollution-caused disease.

The pollution of the Great Lakes is another serious problem and Wisconsin is contributing its share.

This must be eliminated.

In the face of this and all other pollution information we are forced to conclude that we are not keeping up with the pollution control needs of our expanding population.

Our expanding population has created greater demands on industry and also greater opportunities, and industry has developed through research more and better products.

They have also created a great variety of chemical poisons that are being spread over the land and into the waters with practically no control over their indiscriminate use.

We wonder how long it will be before some of our soil will become so saturated with these poisons that it will be unusable.

Thousands of tons of top soil from the fields in Britain's Kent County are to be dumped into the Atlantic Ocean because they are overdosed with weed killer. The Ministry of Agriculture ordered the dumping after two cows put to graze in the fields died. The poison got into the soil through fumes from a factory making weed and rodent killers.

How long can we continue to develop and use these poisons without knowing what the result will be?

This increase in population and the expansion of industry has also caused great sanitation problems in cities and metropolitan areas, and rarely have these areas kept abreast of this development, let alone improved previously inadequate pollution control.

We have been aware and concerned about the pollution of the Mississippi River for a number of years.

Last spring, after receiving all information available about the oil spills, we requested Governor Reynolds of Wisconsin to ask the help of the United States Public Health Service in cleaning up the Mississippi River.

Governor Reynolds and Governor Rolvaag of Minnesota, after consultation, did that and they are to be commended for their action.

We are really happy to see the prompt action taken by the United States Public Health Service in starting this investigation of the pollution problems on the Upper Mississippi River.

We realize the importance of this study and fully support their plans for a thorough investigation.

However, we believe that there is much that can be done by strict enforcement of existing laws which would improve the situation to a great extent.

We hope that we do not have to wait until the investigation is completed before a start is made to control known sources of pollution.

We urge and will support strong action by the United States Public Health Service to clean up the Mississippi and its tributaries.

We know that the States are not set up to do the job within the foreseeable future.

It was very plain at the meeting at Wabasha that both Minnesota and Wisconsin have very able and sincere people on their Pollution Control Committees, but they have their hands tied by the lack of adequate legislation, funds and personnel.

We cannot expect the needed action from the

State committees without sufficient funds to operate.

It may be a long time before these funds are available and we cannot afford to wait.

We hope that the United States Public Health Service will eventually set up standards that must be met to eliminate the pollution in the Upper Mississippi River. These standards should be high enough to allow recreational activities, support normal and healthy fish populations, and other aquatic life.

Regulations should be set up to eliminate insofar as can be foreseen the possible sources of pollution that caused the oil pollution in 1963.

We hope that the States will come up with adequate legislation and funds for effective pollution control programs.

Then, with the Federal and State Pollution Control Departments working together on our pollution problems, we can expect to reach that goal much faster.

Thank you, Mr. Chairman.

MR. STEIN: Thank you, Mr. Ruth.

Are there any comments or questions?

MR. SMITH: No.

DR. HARGRAVES: No.

MR. STEIN: Mr. Muegge?

Mr. MUEGGE: Are the conservation clubs supporting legislation and increased appropriations for water pollution control?

MR. RUTH: Absolutely.

MR. MUEGGE: Are they doing it at the State and local levels?

MR. RUTH: At the State. I don't think we are concerned so much with the local levels. We are concerned, yes. We feel that the higher the authority is, the better and more equitable the results will be.

MR. MUEGGE: Even if the cost is higher?

MR. RUTH: That is, I think we are prepared for the cost if the results are obtained.

MR. MUEGGE: When I refer to local areas and local appropriations --

MR. STEIN: Would you speak up, Mr. Muegge?

MR. MUEGGE: When I refer to local areas and local appropriations, I wonder if your clubs and organizations actually pushed for the passage of bond issues, and so forth, in the communities?

MR. RUTH: Certainly. We support that at any time.

MR. MUEGGE: We would be much interested to receive any material that you may have indicating such reports. It will help us.

MR. RUTH: We also appreciate information from you where the support is needed.

MR. MUEGGE: Very good.

(Laughter.)

MR. STEIN: Thank you, Mr. Ruth.

Mr. Muegge?

MR. MUEGGE: Mr. Earl Foster.

MR. FOSTER: I will pass. Practically everything that I have in mind is fairly well covered, and I don't wish to waste your time.

MR. STEIN: Would you identify yourself as to area, sir, for the record?

MR. FOSTER: I am a member of the Pierce County Conservation Committee, and also represent the Trimble Rod and Gun Club, which is a new and active organization.

MR. STEIN: Thank you.

Mr. Muegge?

MR. MUEGGE: We have a statement from Mr. Swen Sorensen, which we would like to read into the record.

MR. MC DERMOTT: You might find me hesitating once in a while as I read this. I am having a little difficulty with Mr. Sorensen's penmanship. It is not really too bad. Perhaps it is my fault.

STATEMENT OF S. C. SORENSEN, COMMERCIAL FISHERMAN, BAY CITY, WISCONSIN, PRESENTED BY MR. MC DERMOTT

MR. MC DERMOTT: Mr. Sorensen has this to say: He gives his address as Bay City, Wisconsin, Commercial Fisherman, age 62.

> "As a child I helped my father gillnet in the winters of 1915-1916 when we had nets. Where the current of the Mississippi River went through the nets we got much paper slime, chicken entrails, contraceptives (rubber) by the hundreds. In those areas we got no rough fish.
>
> "After the dams went in there was not so much of this noticed. However, a few years after the Hastings dam was in operation the gates were raised and the muck and sludge above Lock No. 2 was washed down and deposited a considerable layer on the islands below Prescott. Some of this settled in the bay at Bay City, Wisconsin.
>
> "That summer weeds grew up quite badly and then in June we had a calm week or so. I noted the fish acted stupid for a couple of days -- they were

"mostly northern pike bass, sunfish and crappies. They all died for one mile east of Bay City. There were thousands of large northern pike belly up as far as a person could see. We laid this on to the pollution on the bottom. About 7 or 8 years ago I bought for the Sorensen Fish Company at Bay City, Wisconsin, about 9,000 pounds of Buffalo from the Department of Rough Fish Removal -- A. K. Feist, St. Paul, Minnesota. These fish were sold to the highest bidder. I paid 14 cents a pound for them. These fish were packed by us and shipped to Bell and Terminal Fish Company in New York. We lost also the labor and 90 boxes of 100 each because the fish were unfit for human consumption. I was never reimbursed for my loss. The fish came from Spring Lake. Now, then in 1933-34 I bought at least 25 carloads of about 30,000 pounds each for a New York firm of all carp from Mr. Mallick at Spring Lake. These carp were excellent. My contention is that the refinery has caused the bad taste of the fish more so than the common sewer.

"The oil this year did spoil our fish. For about three weeks there was a mess on nets and "boats, but we realize this was an accident. We hope that a more rigid control is instituted."

Signed "S." --and I believe his middle initial is "C." --"Sorensen."

MR. STEIN: Thank you, Mr. McDermott.

Are there any comments or questions? Are there any?

MR. MUEGGE: No.

MR. STEIN: Off the record for just a moment.

(Discussion off the record.)

MR. STEIN: All right.

MR. MUEGGE: We would like to read a statement into the record prepared by Mr. Lloyd Spriggle.

STATEMENT OF LLOYD V. SPRIGGLE, BAY CITY, WISCONSIN, MEMBER OF THE UPPER MISSISSIPPI POLLUTION CONTROL COMMITTEE, PRESENTED BY MR. MC DERMOTT

MR. MC DERMOTT: This is addressed to Chairman, United States Enforcement Conference, Regarding Pollution of the Upper Mississippi River, St. Paul, Minnesota, dated February 7, 1964.

> "My name is Lloyd V. Spriggle. I am from Bay City, Wisconsin, a member of the Upper Mississippi Pollution Control Committee and I have been asked to speak for the Wisconsin members.
>
> "Time and again I have heard expressed the need for public support for programs of the type we advocate. This makes good sense, there is no point in cleaning up if no one complains. We now have that support. We have sizable sections of the populations of two states, both Governors, various agencies of state and federal government, state and federal legislators, congressmen and senators from both sides of the river as well as the expressed desire of President Kennedy behind the clean-up

"campaign. Within the boundaries of this country we can go no higher.

"In the location of permanent housing for men, two things are of primary importance. They are a plentiful supply of good water and a means of disposing of waste. These two come ahead of all other appurtenances of our society and they are inseparable, for today's demands on water make re-use of existing supplies mandatory. It is time that we placed them in proper perspective. Fortunately modern technology makes it possible, through proper treatment, to return water to streams in such condition that it can again be used for whatever purpose necessity may dictate. The cost of this treatment is not prohibitive or too burdensome. The modern, small and because of its smallness relatively expensive, Red Wing plant is being paid for and operated at a per capita cost of about $12 per year. The present Pigs Eye plant has been as low as $1.55, about the price of a mediocre dinner or a couple of highballs.

"Some people would have us believe that the current outcry is entirely due to the deluge of oil last spring but they delude only themselves. The "problem of pollution in the river south of the Twin Cities has been with us as long as I can remember.

"The spillage last spring was not the first to plague this area. Years before the Red Wing plant was put into operation, hundreds of ducks were killed in a slick at the head of Lake Pepin by oil that supposedly escaped from a local installation.

"My first active entry into the fight was in defense of a speaker for Clear Air and Water who suggested that there should be laws to regulate the disposal of waste. This was in February 1957.

"Two years ago Mr. Sorenson and I were present at a well attended meeting held at Ellsworth, Wisconsin. At that meeting a group of Wisconsin sportsmen tried to get the fishing reciprocity agreement between the states rescinded until steps were taken to abate the pollution of the river. Though we took no active part in the debate, we did not quite agree that it should be done and the case for continued reciprocity was so well presented by Mr. Lyscziensky of La Crosse that the attempt failed. When I contacted Mr.Lyscziensky in our campaign to "enlist federal aid last spring, he apologized most profoundly for his stand at that meeting.

"In Wisconsin, we had no recourse but to ask for federal intervention in the problem and this we did with the help of many people from Minnesota, including the Twin Cities area. It seemed better for the two states to work together in a common cause than to waste time and energy squabbling with each other.

"From various newspaper articles, it would appear that there is some opposition to federal help in this field as being an infringement on states rights. This is to be expected; there are always those for and those agin anything being done, but those truly interested in cleaning up the mess will welcome all available aid. If the waste were being retained within the boundaries of Minnesota, there would be no reason for federal involvement.

"In our search for information on the problem we have found that industrial use of water is a two-sided coin. Some industries like the refinery at Pine Bend, according to my friends in Clear Air and Water, are doing a fine job and believe me, approval of this group is the acid test. Others like the one "that lost the fuel oil last spring seem to care very little. Some profess an inability to clean up while others will not locate where water is in short supply or contaminated.

"Another idea that we have continually run into is that rivers are natural sewage disposal units and should be so used. This belief, apparently held by many sanitary engineers, was one of the reasons for the formation of the Committee. It is in truth a time-honored concept for it was already ancient when Daniel was reading the handwriting for King Balthazar. With the lack of knowledge and relatively small populations of those days it was acceptable. This is not the case today. Present industrial and population demands on water supplies will no longer permit wanton wastage. The proper application of modern techniques will prevent it. Evidently one of our most pressing needs is to bring thinking on the subject more in line with modern requirements.

"Another method, the green lagoon, was tried and discarded by the Romans. According to a recent Kappe article, it had best remain so.

"One other thing that led to the formation "of the Committee was the discovery that while the proposed plant expansion at Pigs Eye would help somewhat on a temporary basis, in a few years the situation would be as bad or worse than it is now. This we could not tolerate.

"We appreciate the diligence shown in trying to keep the river clean through the Twin Cities proper and the high standards now being set for smaller communities in the state. At the same time we are puzzled by the mediocre treatment proposed for the Pigs Eye plant and lack of concern for downstream areas.

"In summing up it seems:

"1. That there is ample public support for an effective clean-up of the river. That the cost is not prohibitive.

"2. That the pollution problem is no isolated act of God but the result of many years' mismanagement by men.

"3. That industries unwilling or unable to leave waters fit for others to use should be encouraged to locate in areas where they can do no damage.

"4. That we must break the mental barrier to progress by doing away with the Babylonian concept "of waste disposal.

"5. That all municipal sewage disposal plants be required to maintain an undiluted effluent quality at least equal to that of the Red Wing installation with provisions for improvement as indicated by population trends and improved techniques. We need safeguards to insure the future.

"6. That while we know these things cannot be accomplished overnight, we do want to be able to look forward in the near future to a no longer segregated up or downstream, only a river to be used and enjoyed by all."

That concludes Mr. Spriggle's statement.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: Just for the record, does anyone know where Pigs Eye is?

MR. MC DERMOTT: That is the treatment plant.

MR. WILSON: That is just below St. Paul. That is where the Twin City plant is located.

MR. STEIN: Thank you.

Mr. Muegge?

MR. MUEGGE: Mayor George Madson of Hudson.

MR. WISNIEWSKI: He may not be here.

MR. MUEGGE: He is not here.

Mayor Charles Betzel of Prescott?

MR. KRAUSS: He was here yesterday, but I don't see him.

MR. MUEGGE: Mr. Berthel Nelson, Vice President of Pepin?

(No response.)

MR. MUEGGE: Are there any other people from Wisconsin who would like to be heard at this time?

(No response.)

MR. MUEGGE: That would conclude Wisconsin's presentation.

We would like to ask at this time whether we have received the exhibits that we requested from Colonel Harding yesterday?

MR. STEIN: I haven't received it.

MR. MC DERMOTT: The Colonel is out there.

MR. STEIN: Colonel, Mr. Muegge asked a question about that letter we talked about yesterday.

COLONEL HARDING: We don't have a copy of that letter.

MR. STEIN: All right. We are going to continue with Minnesota, and I would suggest that we take a five-minute stretch. Then we will reconvene again. Thank you.

(Whereupon a recess was had.)

MR. STEIN: May we reconvene?

Dr. Hargraves will begin the presentation for Minnesota.

Dr. Hargraves.

STATEMENT OF DR. M. M. HARGRAVES, CHAIRMAN, MINNESOTA WATER POLLUTION CONTROL COMMISSION

DR. HARGRAVES: I might say simply that we worked quite a long time on this report, and it is an information affair, as is this conference, as it should be understood.

I was under the impression that both States would make such a statement, and I suppose I should apologize for Minnesota taking up perhaps the next forty-five minutes with my report of our State, in addition to people who will be called on to make statements, as Wisconsin has done.

I want to assure everyone that the Commission welcomes the opportunity at a conference of this type to present information to the public on the accomplishments, present conditions, policies, goals and objectives, and proposed future action relating to water pollution control in Minnesota.

There is nothing secret about it any more than our Commission meetings are secret. They are open to the public and to the press, and I am rather gratified to see that the press is becoming more and more interested and has been attending our meetings in the last few months.

M. M. Hargraves

The Department of Health and the Commission have always worked very closely with the Department of Health, Education, and Welfare, and especially the United States Public Health Service.

At the outset, it should be made clear that no one denies the existence of pollution in the stretch of river immediately below the Twin Cities or questions the need of improvement. This fact has been recognized by the Minneapolis-St. Paul Sanitary District in its present program of plant expansion and by South St. Paul in construction recently undertaken to improve the quality of the plant effluent. These actions were taken at the urging of the Commission, and we have had good cooperation with both those groups.

There is also no doubt that the national spotlight of publicity was focused on this section of river as a result of two disastrous oil spills that occurred on the Minnesota River in the winter of 1962-63 at points approximately 14 and 115 miles above the junction of the Minnesota and Mississippi Rivers in the Twin City area. Both of the oil spills were accidents, apparently resulting from sudden drops in temperature. Accidents of this type have occurred in various parts of the country. A great deal of damage was done to wildlife, beaches, boats, and shorelines, but much greater damage could have resulted if the spills had occurred above a major water supply intake.

I might say as one individual that I am not as sure as others seem to be sure that the damage from the petroleum products is yet over.

As soon as the spills became known to the staff of the Section of Water Pollution Control of the Department of Health, investigations were made and conferences were held. Recommendations were offered to prevent further escape of oil from the premises. These recommendations included immediate temporary diking or stoppage of drainage to the river, clean-up of the spill area, selection and supervision of disposal areas and the commencement of planning to prevent such occurrences at the same locations in the future. Follow-up investigations were made as necessary.

The United States Public Health Service, which also investigated the effect of the spills on the river, reported that the effects had substantially diminished by the fall of 1963 and will likely have entirely disappeared by next summer. The Public Health Service report made the following comment on the legal aspects of the case:

> "At the time of these oil spills, though several state agencies were involved to some extent in water and pollution problems, none had clear-cut

> "responsibility and legal authority to enforce measures to insure proper storage of non-waste materials or to require salvage action and clean-up if an accidental loss occurred. Action was possible only if a public health emergency was created."

Since there was no public health emergency, there was no statutory authority for legal action by the State Board of Health or the Water Pollution Control Commission under the circumstances of this case. Inquiry has revealed the fact that few States have authority to require protective measures that would assist in the prevention of such occurrences. The water pollution control law, Chapter 874, Laws of 1963 (known as the Rosenmeier Bill), authorizes the Water Pollution Control Commission to issue orders or adopt regulations to prohibit the storage of any liquid in a manner which does not reasonably assure proper retention against entry into any waters of the State that would be likely to pollute any waters of the State. The Commission is preparing such regulations for adoption in the near future.

I would digress here from the printed statement and say that this has taken research. We have sent questionnaires throughout the United States to all other

States, to various industries, and to various groups. There are no States practically that have any regulations from a standpoint of water pollution. I think everything is from a standpoint of fire hazard in the fire marshal's office, as is ours.

After we have gotten enough information in order to make a proper engineering recommendation to people who are going to store liquid, we have got to hold hearings on this, and after the hearings have been held, it can then become an order. Then comes the job of policing this.

I will get to our staff and the requirements of our staff in these various activities later in our discussion, but I think you see it is not an uncomplicated problem.

Historically, in 1945, the Minnesota Legislature enacted Minnesota Statutes 115.01 to 115.09, hereinafter referred to as the Water Pollution Control Act. The Water Pollution Control Commission, comprised of the statutory heads of four State departments and one appointed member at large, was established by this Act. Those four State departments were the head of the Department of Agriculture, the Sanitary and Livestock Board, the Department of Conservation and the Department of Health, their Executive Secretary, and another member at that time who was appointed at large. So, this made up a group of five individuals from

1945 up until 1951.

Again to digress, I might say that things were rather free and easy in those days. This was immediately postwar. There was little opportunity to try to make up for the ravages of the loss of manpower and materials that were not available during the prewar and war years, and the problem had gotten considerably out of control. However, in 1951, two more appointees were put on the Board. I am one of those. I represent the public at large. We have one who represents municipalities, and we have one who represents industries.

The Act was amended in 1951 to add two more appointed members at large. The Act also required the State Board of Health "to designate, with the approval of the Water Pollution Control Commission, a qualified and experienced sanitary engineer to act as the Commission's executive engineer," -- that is Mr. Lyle Smith -- "and to furnish such other services as the Commission might need in its administration of the State Water Pollution Control Act." The services are performed by the Water Pollution Control Section of the Division of Environmental Sanitation, and the Chief of the Section is designated as Executive Engineer for the Commission.

Soon after its creation, the Water Pollution

Control Commission established a system of permits for construction and operation of sewer systems, sewage treatment facilities, and facilities for disposal of wastes from industry. In the period since 1945, no permit has been issued for construction of a new sewer system that did not include a treatment facility, or for a waste disposal system for an industry not providing treatment adequate to meet the needs of the receiving water as determined at the time of issuance. In addition, the Commission has withheld permits for extension of sewers very often in many communities not having adequate treatment facilities or not furnishing assurance of progress in providing such facilities. This permit system has kept to a minimum the pollution contributed by new sources and has been effective in bringing about construction of new facilities or improved facilities to reduce pollution from existing sources. Concurrently a great many industrial plants have reduced their contributions of pollution by installing systems for recovery of material formerly wasted, by recirculation and reuse by construction of facilities for treating the wastes or by eliminating or controlling direct discharge of the wastes to surface waters.

In spite of these measures for reducing and ontrolling pollution, the great growth of population and the expansion of industry in the period since World War II have increased the potential for pollution -- and I might add, tremendously -- partially offsetting the gains and, in some instances, resulting in more critical pollution conditions. At the same time there is a greater need for water for municipal and industrial uses and more people are using the lakes and streams for recreation. It was the necessity for preserving and improving the quality of the water resources of Minnesota that brought about the enactment of Chapter 874 to provide more effective and aggressive control of pollution. But let me point out this is only a ten-month-old infant.

"Pollution," as defined in Minnesota Statutes, Section 115.01, "means the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life."

Chapter 874, Section 4, declares, "It is the policy of the state to provide for the prevention, control, and abatement of pollution of all waters of the state, so far as feasible and practical, in furtherance of conservation of such waters and protection of the public health and in furtherance of the development of the economic welfare of the state. The Commission shall prepare a long-range plan and program for the effectuation of said policy, and shall make a report of progress thereon during each biennium to the legislature at the beginning of each regular session, with recommendations for action in furtherance of such program during the ensuing biennium. It is the purpose of this act to safeguard the waters of the state from pollution by: (a) preventing any new pollution; and (b) abating pollution existing when this act becomes effective, under a program consistent with the declaration of policy above stated."

The 1963 Act charges the Water Pollution Control Commission with many new powers and duties supplementing those contained in the older State Water Pollution Control Act, one of which is the power to compel two or more municipalities to enter into a contract, if necessary, to prevent, ontrol, or abate pollution. The Commission contemplates the use of these powers to the fullest extent of its resources wherever it may be necessary to accomplish its objectives.

Historically further, in 1945, which is only nineteen years ago, or less, when the Commission was created, of the 19 then existing major sewage discharges to the Mississippi River and significant tributaries in the area covered by this conference, only seven (Anoka, Savage, Minneapolis-St. Paul Sanitary District, South St. Paul, Bayport, Hastings State Hospital and Lake City) had treatment plant facilities. Of these, Anoka and Savage have since constructed new plants; South St. Paul, Bayport and Hastings State Hospital have constructed alterations and additions. I might add at this point, and will again stress the fact, that our Commission has always felt that instead of rushing into a problem, there were often times when it was perfectly permissible to delay for an adequate study or for a development of a new system.

With the Minneapolis-St. Paul Sanitary District, they took five years and a half a million dollars in order to make a study of this entire area, which you see on the chart on the wall. The problems of this will be gone into at a later time, but, as I think you can appreciate, with the mushrooming of population in this particular area served by this particular group, it has been a tremendous problem, in which no one who does not deal with it has any concept of the various steps that are necessary in order to provide sewage treatment for this many people.

So that during this period of time this was delayed. This addition to the plant was delayed for a period of five years for this five-year study, which cost a half a million dollars. I, for one, feel it was justified because, in the long run, I feel it will pay dividends.

To return to my paper, the Minneapolis-St. Paul Sanitary District has extensive alterations and additions under construction to provide a new secondary treatment facility; and Lake City has made repairs to the existing plant and has had an engineering report prepared on new treatment facilities.

You can follow these communities along the course of the Mississippi and along the Minnesota, as I talk, and I think you can see where the work has been done.

Of the remaining 12 which had sewer outlets without treatment in 1945, Mankato, St. Peter, LeSueur, Belle Plaine, Chaska, Shakopee, Hastings, Stillwater, and Red Wing, have completed treatment facilities; North Mankato, after much persuasion and bickering, has a contract with Mankato and connecting sewers are under construction; Cannon Falls has received construction bids for a new plant; and the remaining one, Henderson, has employed a consulting engineer to prepare an engineering report on adequate facilities.

When the Minneapolis-St. Paul Sanitary District was created in 1933, there was only one sewage treatment plant of any kind on the main stem of the Mississippi River in Minnesota, whereas now all municipalities with sewer systems discharging directly to the main stem of the Mississippi River have sewage treatment plants. When the Twin City plant was completed in 1938 -- those of you who feel that your stages are laggard -- it was the only plant serving a metropolitan area anywhere on the main stem of the Mississippi, the Missouri, or the Ohio Rivers.

The Minneapolis-St. Paul Sanitary District is presently embarked on an expansion program, costing some $23 million, to provide secondary treatment for sewage from Minneapolis, St. Paul, and contracting suburbs. This project is expected to be completed in 1966. South St. Paul, which is the second largest meat packing center in the United States, and which has operated a secondary treatment plant serving the city and industry since 1940, has just placed in operation an extension of its facilities to reduce further the pollution contribution from this source by approximately one-half. Newport, St. Paul Park, parts of Inver Grove Township, and parts of Cottage Grove Township, all of which are in the metropolitan area below the Twin City plant, have new sewer systems and secondary plants in operation or under construction.

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One might look back again historically and say that the first group of these were old communities and established in their ways, whereas these we just mentioned are new and growing ones with whom we have had rapport with developers, and who have cooperated with us in putting in and planning for their sewage disposal before they went all out in a development.

This should be brought to the attention of every group who is interested in water pollution and who might, by the way, have some money invested in various developmental schemes. The latter are all communities which had no pre-existing sanitary sewer systems. This is in accordance with the policy of the Commission to require construction of treatment facilities concurrently with construction of new sewer systems.

In other words, when a community puts in its sewer lines in the city, it does not get our permission to do so until it has agreement and plans for putting in treatment facilities concurrently.

When the Minneapolis-St. Paul Sanitary District was created in 1933, Minneapolis and St. Paul were already furnishing sewer outlets for several of their suburbs which were not adjacent to the river.

Again, a look at the map will give you some idea of the problems of these communities.

At the present time, the Twin Cities have contracts with 43 suburbs and separate agencies. The vast majority of them again, I might add, grew up during the war years and the population and industrial expansion. The sewage treatment plant, which was designed to serve an ultimate population of 910,000, reached its volume capacity in 1953, largely because of service having been extended to additional rapidly growing suburbs.

In anticipation of the possibility of having to serve a much larger population and to provide a higher degree of treatment, the Minneapolis-St. Paul Sanitary District, with urging from the Minnesota Water Pollution Control Commission, in 1956 initiated a five-year study I have mentioned of sewerage needs for the metropolitan area. This study, completed in 1961 at a cost of approximately a half a million dollars, developed several proposals -- there were alternates there -- of which the most economical for the area was a single metropolitan system to serve a future population of over 3 million in a 900 square mile area. You don't do these things overnight.

The Commission supported the concept of the creation of a metropolitan sanitary district or other administrative agency for the entire area. In 1961 the

Legislature considered, but did not enact, legislation along these lines. Following extensive interim study the 1963 Legislature enacted Chapter 874 and Chapter 882 (known as the Ashbach Bill).

Chapter 882 requires the Minneapolis-St. Paul Sanitary District to develop a comprehensive plan, in collaboration with the Cities of Minneapolis and St. Paul, for sewage disposal for the area likely to be served by the sanitary district system. This law also requires, No. 2., the Commission to hold a public hearing on the proposed comprehensive plan, including the cities' proposed finance plans, and to issue a written report approving or rejecting the proposed comprehensive plan or recommending modifications thereof. Preparation of this plan has been underway since July 1963.

I might add that this group meets regularly with representatives from throughout this area, and they discuss this problem and are working on such plans.

The objectives of the Commission are to continue toward the goal of eliminating existing pollution and preventing the development of new sources for the protection of legitimate uses of the waters of the State.

The pursuit of these objectives must be organized in specific tasks dealing with the various problems. For those who may think this is a simple thing to do, we have arranged a summary of tasks demanding action, and these are as follows:

(1) New Sewage Treatment Plants in Sewered Municipalities. Secure construction of new sewage treatment plants in 41 sewered municipalities now without treatment.

These, as you will see later in the graph, are very small communities. Many of them are hard-hit. Consequently, all progress will depend on financial problems and other conditions in the various municipalities concerned.

(2) Expansion and Improvement of Inadequate Existing Sewage Treatment Plants. Secure expansion and improvement of inadequate existing sewage treatment plants serving 97 sewered municipalities.

Again progress will depend on appropriations by the Legislature for the cost of necessary inspections and surveys by the Commission's staff and on financial problems and other conditions in the various municipalities concerned.

I think it should be understood at this point, and this is in addition to the read report and is not off the record, we have a professional staff of one Class 4 engineer -- this means the number -- two Class 3 engineers, we have two Class 2 engineers, and we have three Class 1 engineers, and two engineering aides.

There has to be a change of concept, so far as I am concerned, as a professional man, to appreciate the fact that these people are professional people and provide professional service.

Each problem for them has to be an individual consideration. One has to work with communities, with engineering firms, with the city engineers, with the mayor, with representatives of the Council, and with other groups, and give them the same kind of professional advice and help and guidance as I, as a physician, have to give patients.

This is seldom thought of. It is usually considered that mass performance or mass production can be expected, and that all one has to do is issue an order.

In addition to this very small staff which we have, which also has to approve and go over every set of plans and specifications that is drawn up for a sewer or a sewage disposal system in the State, and have to be passed by them in addition to these other professional services, we have a budget which roughly is about $100,000 a year, and the Federal people are going to spend a quarter of a million or $300,000. In the next two years, they will be spending more than our entire budget per year for the services which we do render.

When you talk to your legislator or when you vote for your legislator, I think you can keep some of these things in mind, because our progress is going to depend upon being able to make necessary inspections and surveys, and also it is dependent upon the finances of these particular communities, as well as our own finances.

Future inadequacies will be dealt with as they arise, and I am sure you can appreciate with the growing population it always arises.

(3) Sewage Disposal for Unsewered Municipalities. Make surveys in 410 unsewered municipalities and other residential communities and take action to secure construction of sewage disposal systems, with adequate treatment facilities, wherever necessary to prevent or control pollution of either surface or underground waters or to avert other health hazards or nuisance conditions.

This task will not be finished -- this task will continue indefinitely as residential development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys by the Commission's staff and on financial problems and other conditions in the municipalities and other localities concerned.

(4) New Industrial Waste Treatment Facilities. We will have to secure installation of new waste treatment facilities in all industrial plants having separate outlets without such treatment, numbering over 450 and comprising nearly one-half of the total number of such plants in the State, namely, around 900.

This task will continue indefinitely as industrial development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys by the Commission's staff and on financial and technical problems of the industries concerned.

(5) Expansion and Improvement of Inadequate Existing Industrial Waste Treatment Facilities. We will have to secure expansion and improvement of existing waste treatment facilities at all industrial plants where such facilities are inadequate, comprising a large percentage of the old plants in the State, for which exact figures are not available because of insufficient means for making the necessary inspections by the Commission's staff.

This task will continue indefinitely as industrial development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys and inspections by the Commission's staff and on financial and technical problems of the industries concerned.

This latter statement, of course, is a tremendous sleeper, as any of you know who are in the profession, who are in industry, in medicine, or who are intimately connected with anything that deals with chemistry, or if you are cognizant of the tremendous growth of new and exotic chemicals that are flooding us at the present time.

How our staff is going to be able to keep pace with industry and its development, of course, is again a problem. Without additional appropriations and adding chemists and engineers who have been trained, and instead of industry robbing us of engineers, perhaps we will have to turn the tables if we can get a little money.

(6) Twin City Metropolitan Area Sewage Disposal Problems. Require the making of adequate provisions for future increased sewage flow expected from the Twin City Metropolitan Area before treatment facilities become overloaded and critical conditions develop. In other words, this is going to be a continuing problem.

This task will continue indefinitely as population increases. Progress depends on action by the Cities of Minneapolis and St. Paul and the present

Minneapolis-St. Paul Sanitary District on comprehensive plans in progress under Chapter 882, Laws of 1963, on subsequent action thereon by State and local authorities under the Rosenmeier Act, on the enactment of new measures by the Legislature to deal with problems for which the provisions of the Rosenmeier Act may prove inadequate, and on financial problems and other conditions in the affected area.

(7) Minor Sources of Pollution in the Metropolitan Area. Secure abatement or control of minor sources of sewage and industrial waste in the Twin Cities Area and surrounding territory not taken into the present disposal system.

Plans and projects are now in progress for accomplishment of this task.

Again, may I say off the written report, that this takes into account the individual's and private people's consciousness of these matters of sewage disposal and of private responsibility. Many of these minor sources could be taken care of if the individual had a social conscience, and he felt sewage had anything to do with his social conscience.

(8) Storage of Oil and Other Liquids or Substances. Regulate the storage of oil and other

liquids or substances under the applicable provisions of Chapter 874, Laws of 1963, to insure installation and maintenance of adequate safeguards against pollution of surface or underground waters.

Of course, underground waters, if you begin to think of all of your local gas stations and other things, as well as the numerous private sewage disposal plants and privies scattered over the State, you can see that the problems loom large.

The Commission is in process of adopting regulations on this problem.

I have gone into that point and some of the difficulties involved, and a hearing will be held before long in order to get this job completed.

(9) Oil Spillage on Navigable Waters. Regulate transportation and handling of oil and other liquids and substances on navigable waters so as to protect the waters against pollution from spillage.

This task will continue indefinitely.

Just how much we, as a State organization, can do, I do not know, and I don't think any of us from the last day's testimony can be too sure of this. Progress will depend on appropriations by the Legislature for the cost of necessary inspection and enforcement services by the

Commission's staff or other agencies as authorized.

This brings in, as we tried to bring out at the Wabasha meeting, and we have tried to bring out at other places, that private individuals can instigate litigation against these polluters, that the local sheriffs can be used, as can the local district attorney. If you can get them to move in these cases you should have no great problem. They didn't move with the last, the great oil spillage.

(10) New Chemicals. Provide for the control of new chemicals used by industry or the public so as to prevent creation or aggravation of water pollution problems therefrom.

This task will continue indefinitely, and this is where the Federal Government may certainly lend a great hand, on financial and technical problems, which is another place the Federal authorities can help, with the industries and localities concerned.

I might also point out our cooperation with the various industries in their research, and one ought to read something about the industrial research that goes on for waste disposal in industry to appreciate that the vast majority of up and coming and responsible industries are very active and acutely aware of their needs from a standpoint of cleaning up pollution and providing clean water, which they in turn need.

(11) Chemical Sprays. Provide for the control of chemical sprays so as to prevent creation or aggravation of water pollution problems therefrom.

How we are to control chemical sprays so as to prevent the creation or aggravation of water pollution from these things is quite a mystery to me as yet.

As we have pointed out, this task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of surveys and research by the Commission's staff and other agencies, on action by Federal authorities, on financial and technical problems encountered, and on other unforeseeable conditions.

It is also going to depend, of course, on new formulations as well as new pesticide sprays coming out. It is going to be a continual and unforeseeable condition in the future.

(12) Radioactive Wastes. We discussed that yesterday. Keep watch over atomic power plants and other establishments using radioactive materials to assure adequate safeguards against pollution of waters from their wastes.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of surveys and research by the Commission's staff, on action by Federal authorities, on financial and technical problems encountered, and on other unforeseeable conditions.

(13) Recreational Pollution of Lakes and Streams. We must provide for protection of lakes and streams against pollution incident to boating and other recreational use, through regulation of marine toilets and other measures.

Here again, as a sportsman and as one who has been interested in the out-of-doors and represents the public on this Commission, I would throw in at this very moment ice fishing.

When one gets a concentrated village of, say, 10,000 souls on the surface of one lake in the State of Minnesota or Wisconsin, what goes on in the dark, in these ice houses, and what happens in the way of sanitation control of a population of a city of 10,000 on a lake from a standpoint of pollution of these waters, is something that has to be considered.

I know that the Minnesota Conservation Department once attempted to make a survey, and has attempted to prevent pollution and rubbish on the lake and other sources of pollution, but this is again a never-ending job, and this again goes back to private initiative and to one's etiological and social conscience.

The matter of the marine toilets I passed on yesterday, and our legislature passed such an Act in the last session without realizing that there are no adequate facilities that can be installed on boats at that time that we had tested, and several that we tested blew up during the testing, and others we question whether they are satisfactory to provide what we want for the cost of installation.

I brought up the point yesterday of an incinerator type, using LP gas, which again has its hazards.

So that on this matter of marine toilets and other sources of pollution in boating and recreation, we will have to deal with them not just ourselves, but as industry and others make available methods and appliances that can be used.

If Wisconsin can get away with simply locking up the toilets on all of their pleasure boats on the river, this may be something we will have to consider; but working with a group of doctors, many of whom own such boats, I think I will have to change my place of occupation if this is done.

I think you can appreciate that this matter of recreational pollution of lakes and streams is a continuing problem. Again, our progress will depend on appropriations by the legislature for the cost of testing treatment devices by the Commission's staff, on the efficacy of enforcement by the Commissioner of Conservation and local authorities, and on other unpredictable conditions.

Again, I would like to add, namely in the Conservation Department, in the days that I was greatly interested in working with them and, I hope, helping them by criticism, as well as visiting many, many sportsmen's organizations and farm groups and others talking on the problem, the Conservation Department has always been plagued by what I call brush fire activities.

Chester Wilson will understand this well, since he was plagued by brush fire activities during most of his period in the legislature, or most of his time as Commissioner.

This we are going to find more and more with our pollution problems, and the more that our small staff has to go out and investigate a fish kill, or has to go out and investigate an oil slick, or has to go out and investigate something else, the less time this staff will have for administrative work, for carrying out surveys, for doing problems of research, and for any long-range planning as an activity.

To me, I think conservation and pollution and other groups are subject to being hamstrung more by this type of brush fire activity than any other handicap or impediment thrown in the way of our progress.

Complaints and knowledge about these sources of pollution should be known, but many groups are not satisfied until somebody comes down and actually looks at it, and this pulls a man away perhaps from a half a day's or a day's work in going over engineering plans, or other things.

I only ask for your cooperation, if you understand the problem, not that we don't think your problem is of importance.

(14) Surveys of Surface Waters. Make continuous systematic surveys of all streams, lakes, and other surface waters into which sewage or industrial waste is or may be discharged to determine present and prospective conditions relating to pollution and to obtain information needed as a basis for classification of waters and establishment of standards, for prescribing sewage and waste treatment requirements, for checking on the efficacy of sewage and waste treatment facilities, and for determination of progress in pollution abatement

or control.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

If the importance of that sentence sinks in, I am sure you can see again the need for a continuing use of staff and money in order to carry out such activities. This, of course, should be paramount actually as a continuing activity of the Commission and the Commission's staff. But again it will depend upon the Legislature and appropriations for the cost of such work.

(15) Survey of Underground Waters. We must make a state-wide survey of underground waters to determine the nature, location, and extent of present and prospective pollution from all sources as a basis for instituting measures to deal therewith, and thereafter conduct continuous surveys of those waters for the same purposes as above described for surface waters.

There is urgent need for an immediate survey because of the recent extension of the Commission's authority to underground waters by Chapter 874. Further surveys will be needed from time to time. Progress will depend on appropriations by the

Legislature for cost of the work.

(16) Inspection of Sewage and Waste Treatment Facilities is something that very often is completely forgotten after people have been satisfied that a plant has been put in. Conduct continuous inspection of all sewage and waste treatment and disposal facilities to determine the efficacy and adequacy thereof as a basis for correcting faulty operation and requiring improvement or expansion of facilities when necessary to handle increased sewage or industrial waste loads and meet the standards or conditions prescribed for adequate treatment.

This matter of operation of a plant is of great importance, and when someone from the staff does have the opportunity to go out and visit a community, let's say, after a snow storm, which occurred seven days ago, and you go out with the handyman who is the operator, and there haven't been any snow tracks or tracks in the snow since the snow fell going out to the plant, or when you can drive along over a known course going through a town and you see the same sludge bed with the same rock in the middle of it week after week, you can be suspicious that the community has put in a sewage treatment plant, but with no one to carry out policing powers or inspections. These plants

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might just as well not have been put in.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

(17) Qualifications and Schools for Sewage Treatment Plant Operators. Provide for a more effective certification program for sewage treatment plant operators and conduct more extensive short-course schools for their training.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature to provide for the cost of the work.

(18) Research.

Now we come to research, which, as a professional man, interests me a great deal, and is one reason I am interested in being on the Commission.

> Conduct systematic research on sewage and waste treatment methods and facilities, on new chemicals and other pollutants, and means of dealing therewith, and on other pollution problems, in furtherance of the development and adoption of the most effective means for prevention, abatement, and control of all types of water pollution.

I think we need a tremendous amount of work on fertility of our waters, and the type of fertility elements which are going on, on trace minerals, of which we know very little, which are being added to water and may be well added to water supplies; and exotic chemicals, which I have mentioned.

We need more knowledge about thermal or heat pollution of our waters, because anyone who has taken elementary chemistry knows the various chemical reactions which may take place in our rivers or streams. I think, just as in a test tube, the reaction time is cut in half when we raise the temperature 10 degrees.

There are many other things that ought to be gone into, and seriously, and we have gone into them in spite of adverse criticism, some of these being sewage stabilization ponds and the use of pond treatments.

It is not settled to my satisfaction at the present time at all sanitary engineering facilities are necessarily the one and the best. Other looks at new methods have to be considered.

The Norwegians, who are plagued with sewage now beginning to accumulate in their fiords, which are beauty spots, fortunately, for their method, can produce electricity in that particular area. They are now using electrolysis and are able to get rid of a lot of the fertility elements.

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Perhaps we can go to this.

Mayor Jelatis and I were discussing this, and he will be speaking in a few minutes. We were kicking around th idea that perhaps some day nuclear power, which is a matter of essentially instantaneous combustion and evaporation, might well come into the picture before too long. In my humble opinion this would be a lot more important than hitting the moon.

So, this matter of research, I think, is of great importance. Not only that, but other people are doing research, and on our staff we should have someone to cover the literature, so that it can be part of his research activity. Our engineers ought to have a period of time off, as industrial engineers do in industry, where it has been shown to pay off in dividends, for periods of thought and reading and reflection on the problems that we have. The literature on industrial research, on Federal research, on university research, and on local research, is of great importance to the Minnesota pollution problems in the future in tying these things together.

We now go to No. 19, Classification and Standards. It is our job to classify and establish standards for waters, especially where necessary for enforcement purposes.

This came about where the first court case we tried was essentially thrown out because we didn't have standards for this particular creek.

This task will continue indefinitely. Progress will depend on need for action for pollution control in the affected waters, and on appropriations by the Legislature for the cost of the work.

These programs will be carried forward as rapidly and vigorously as possible, consistent with personnel and funds made available.

A few thoughts about the Commission's resolutions and policies: Certain resolutions and policy statements relating to the area with which we are concerned have been adopted by the Commission and are of importance to this conference. These are as follows:

Joint Resolution - Minnesota Water Pollution Control Commission and Wisconsin Committee on Water Pollution, Mississippi River - August 11, 1953. Each agency agrees to require the correction of existing and prevention of additional pollution within the boundaries of its State to the end that the Mississippi River as an interstate stream may be maintained or rendered suitable for all normal legitimate uses as defined and that in the attaining of these objectives the guiding policy shall be the requirement that facilities for treatment of sewage and for industrial wastes shall provide at least effective sedimentation or equivalent, substantially complete removal of floating solids or liquids, and reduction of toxic materials to less than lethal limits for aquatic life, with the understanding that additional or special type treatment be required in these areas where water uses so dictate.

Policy statement on the Minnesota River was essentially the same on January 11, 1950. The following program of sewage works planning and construction was adopted as a general policy of the Commission, to be applied to those municipalities on the Minnesota River from above Mankato to its junction with the Mississippi River.

Remember, this was in 1950, and when we just were actually coming into the problem as a commission.

This provided:

1. Provision should be made for at least primary or tank treatment and chlorination for the municipal sewage and equivalent treatment for industrial wastes.

2. Installation of secondary or further treatment facilities should be made as rapidly as possible thereafter in order to meet local requirements for the abatement of sewage pollution.

Then this past summer, in 1963, we made a policy statement on the Minnesota River, dated July 25, 1963. Pending the classification and adoption of standards for the lower section of the Minnesota River, it is the present attitude of the Commission, though not adopted as a binding commitment, that it will not issue permits for permanent treatment facilities with discharge to the river below the City of Shakopee.

Our policy philosophy, of course, is changing, and I think it also has been adequately suggested to people along the river that we are going to go after secondary treatment in essentially every new installation and every old installation that is improved.

On the St. Croix River, the following statement was adopted on April 18, 1963: The following was adopted as a general policy of the Commission to be applied to municipalities on the St. Croix River:

> 1. Provision should be made for both primary and secondary treatment, with chlorination, for all new sanitary sewage discharges. Equivalent treatment should be provided for industrial wastes.
>
> 2. Where a lesser degree of treatment is now provided additional treatment facilities should be constructed as rapidly as feasible.

In 1963, and I think this was one of the first tests of strength, the Commission adopted Classifications and Standards for the Mississippi River and tributaries (with exception of the Minnesota River)(which we plan to do this year) from the Rum River to Lock and Dam No. 2 near Hastings. These Classifications and Standards are subject to modifications as provided by law as future conditions may require in furtherance of maximum pollution control.

The classification of the river from the Rum River to the Upper Lock and Dam of St. Anthony Falls is such that the water quality will be acceptable as a source of public water supply (Group IV waters, as defined in Public Health Bulletin No. 296, Manual of Recommended Water Sanitation Practice, 1946), for industrial processes and cooling, navigation, pleasure boating, fishing, and other recreational uses. No raw sewage, including discharges from watercraft, nor any treated sewage or industrial wastes containing pathogenic organisms or other substances which may cause disease or materials that may cause nuisance conditions, may be discharged to the river in this reach.

The reach of the river from the Upper Lock and Dam of St. Anthony Falls to the outfall of the Minneapolis-St. Paul Sanitary District sewage treatment plant is classified so that the water quality will be acceptable for pleasure boating, fishing, and other recreational uses that do not require frequent or prolonged contact with the water, and for navigation, general industrial purposes, and other beneficial uses which do not conflict with recreational uses. No major quantities of sewage, treated or untreated, may be discharged in this reach. Limited quantities of sewage, and industrial waste which may contain disease-causing organisms, can be discharged provided they are given effective disinfection during the summer months, and provided they do not cause nuisance conditions.

From the outfall of the Minneapolis-St. Paul Sanitary District sewage treatment plant to Lock and Dam No. 2 near Hastings the river is classified so that the water quality will be maintained for general industrial processes, and cooling, stock and wildlife watering, irrigation, fish survival, esthetic enjoyment of river scenery, and passage of commercial and pleasure watercraft. No major quantities of untreated sewage or industrial waste may be discharged to the river in this stretch, and all effluents that contain disease-causing organisms must be given effective disinfection during the summer months. The discharge of wastes in such manner or quantity as to cause nuisance conditions is prohibited.

All of these actions pertain to improving existing conditions. The standards adopted by the Commission for the stretch of the Mississippi River below the Twin Cities will maintain the river in a considerably better and cleaner condition than would have resulted under previous objectives.

The Commission is confident that with compliance with the present standards the interstate section of the Mississippi River between Minnesota and Wisconsin will be satisfactory for most recreational uses and for all recreational uses which can reasonably be expected below a metropolitan center and industrial complex of the magnitude of that in the Twin City Metropolitan Area.

The Commission feels that certain basic problems require further study. These range from the evaluation of the effect of certain discharges to a projection of future discharges upon the water resources of this area.

The Commission welcomes the opportunity to join with the United States Public Health Service in their announced study of river conditions in this area and suggests that the Wisconsin Committee on Water Pollution be invited to participate. It is the ultimate objective of the Commission to classify the interstate reach of the Mississippi River and to adopt standards which will be satisfactory to Federal and State authorities as well as other interests.

We have attached a list of exhibits which are presented for background information. I was going to show a number of slides showing the growth of this area, but as to time, I have more than taken our part for Minnesota, I believe.

However, if you will refer to this decade of progress in water pollution and study these graphs, which I would have shown on the screen--and any of you who are interested can get one, which is not our exhibit, showing these various charts of numbers, populations, cities, and so on, which is available if it is requested -- I am sure that you can study these graphs just as well or better in the seclusion of your study than with my trying to show them on the screen.

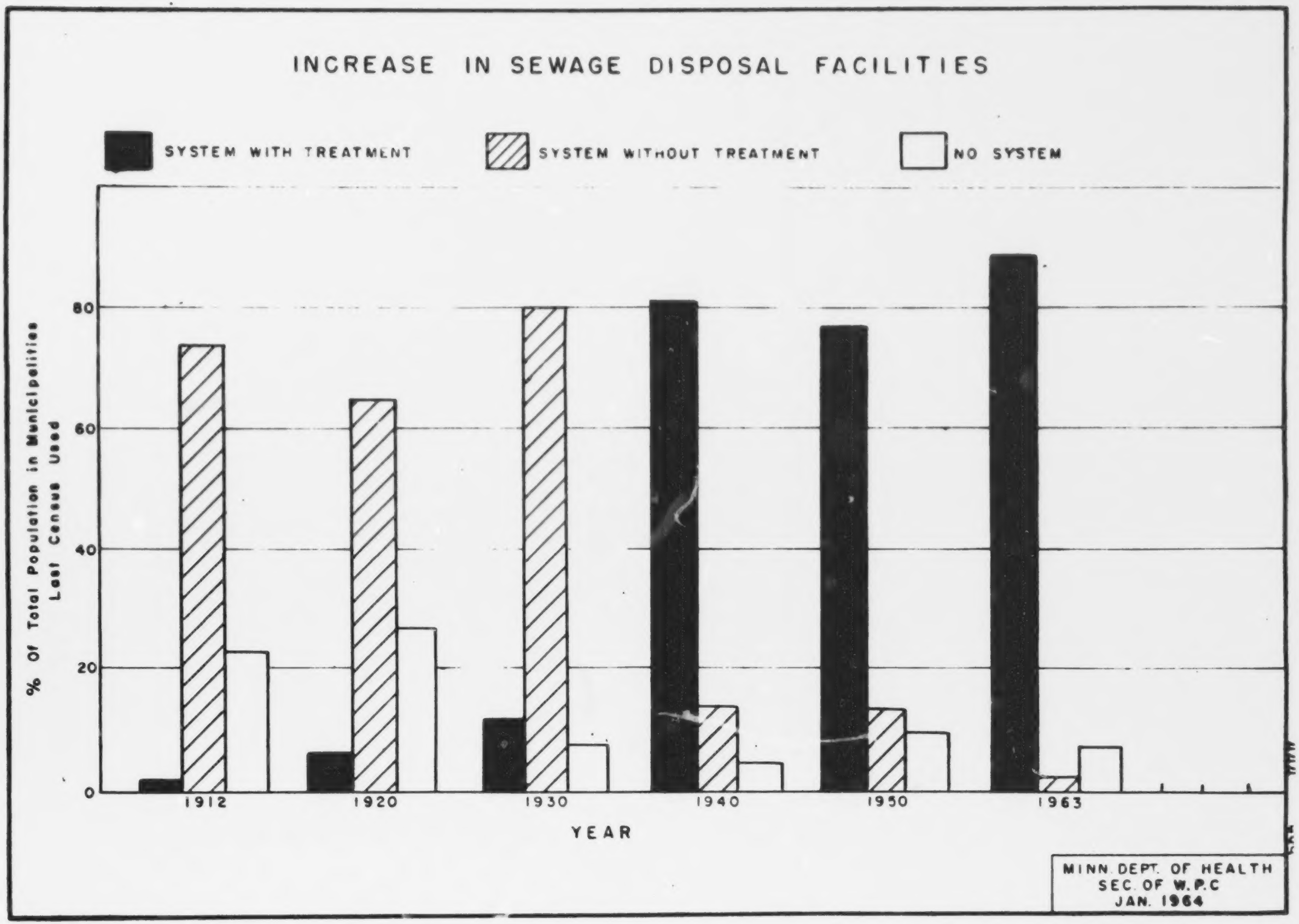
So then, Mr. Stein, with my apologies for the fact that we did have to take an hour in order to paint a picture of Minnesota and its problems, I will turn it back to you.

I have turned our exhibits over to the reporter.

MR. STEIN: Do you wish them attached to the record as exhibits, or do you wish them incorporated as part of the record?

DR. HARGRAVES: I have arranged to confer with the reporter during the recess and I will instruct him as to those exhibits which I want incorporated in full, and those which may be attached as exhibits to the record of the conference.

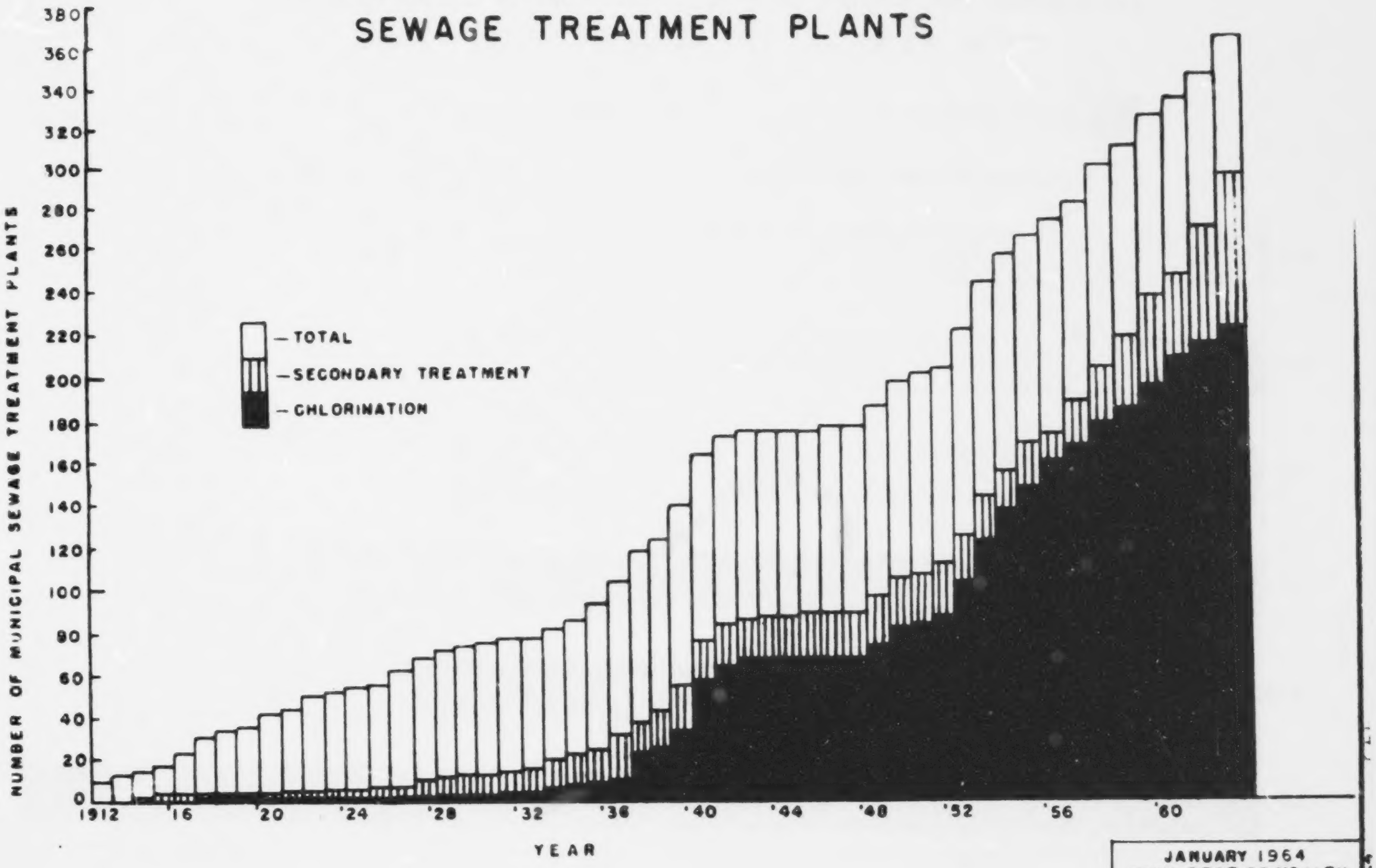
L-332



INCREASE IN SEWAGE DISPOSAL FACILITIES

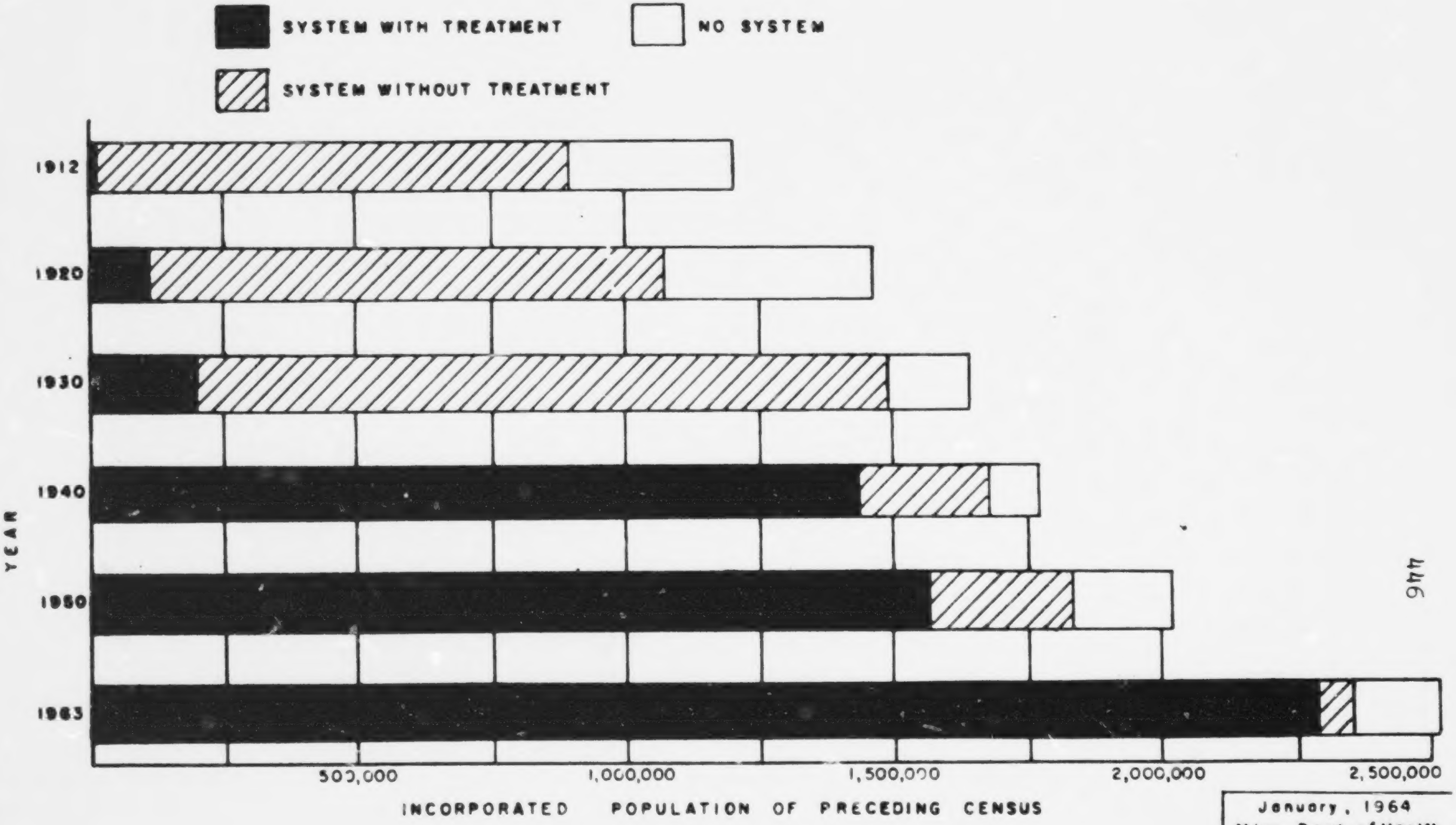
MINN. DEPT. OF HEALTH
SEC. OF W.P.C
JAN. 1964

ANNUAL INCREASE OF MUNICIPAL SEWAGE TREATMENT PLANTS



JANUARY 1964
MINN. DEPT. OF HEALTH
SEC. OF W. P. C.

INCREASE IN TOTAL POPULATION OF MUNICIPALITIES WITH SEWAGE TREATMENT FACILITIES



January, 1964
Minn. Dept. of Health
Sec. of W.P.C.

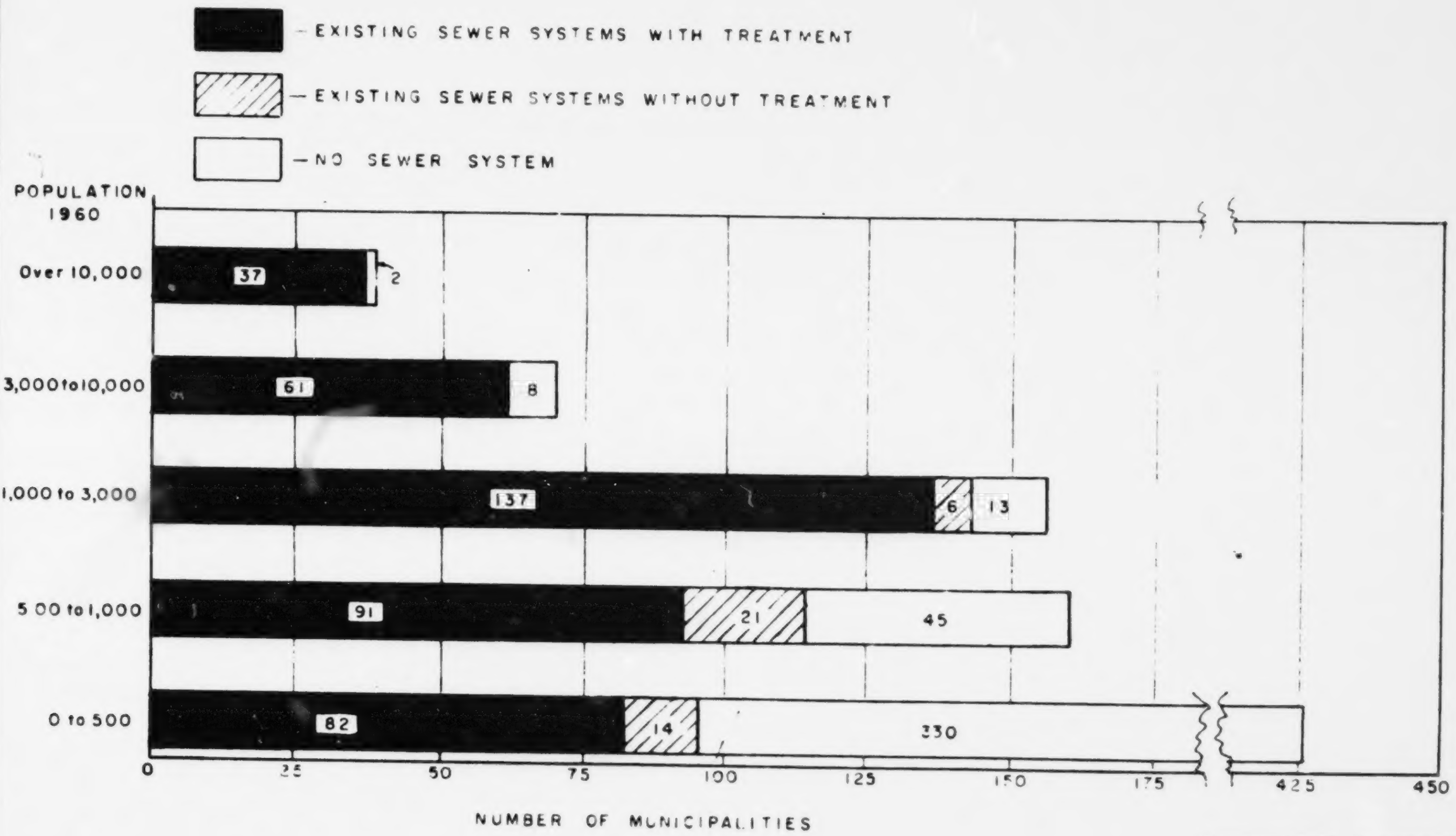
STATUS OF MUNICIPAL SEWAGE TREATMENT FACILITIES

Jan. 1, 1964

STATUS	POPULATION GROUP					
	OVER 10,000	3,000 10,000	1,000 3,000	500 1,000	LESS 500	TOTAL
NO SANITARY SEWERS	2	8	13	45	330	398
SEWERS ONLY	0	0	6	21	14	41
SEWERS AND SEWAGE TREATMENT	37	61	137	91	82	408
TOTALS	39	69	156	157	426	847

MINN DEPT OF HEALTI
SEC. OF W.P.C
JAN 1, 1964

STATUS OF MUNICIPAL SEWAGE DISPOSAL FACILITIES



MINN. DEPT. OF HEALTH
SEC. OF W.P.C.
JAN. 1964

(The following exhibits are inserted herein at the request of the Minnesota Water Pollution Control Commission:

EXHIBIT I

STATE WATER POLLUTION CONTROL ACT

(as Amended by Chapter 517,
Laws of 1951 and Chapter
399, Laws of 1959)

*Section 115.01. Definitions. Subdivision 1. The following words and phrases when used in sections 144.371 to 144.379, unless the context clearly indicates otherwise, shall have the meanings ascribed to them in this section.

Subd. 2. "Sewage" means the water-carried waste products from residences, public buildings, institutions or other buildings, including the excrementitious or other discharge from the bodies of human beings or animals, together with such ground water infiltration and surface water as may be present.

Subd. 3. "Industrial waste" means any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from the development of any natural resource.

Subd. 4. "Other wastes" mean garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, sand, ashes, offal, oil, tar, chemicals, and all other substances not sewage or industrial waste which may pollute or tend to pollute the waters of the state.

Subd. 5. "Pollution" means the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life.

Subd. 6. "Sewer system" means pipe lines or conduits, pumping stations, and force mains, and all other constructions, devices, and appliances appurtenant thereto, used for conducting sewage or industrial waste or other wastes to a point of ultimate disposal.

Subd. 7. "Treatment works" means any plant, disposal field, lagoon, dam, pumping station, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary land fills, or other works not specifically mentioned herein, installed for the purpose of treating, stabilizing or disposing of sewage, industrial waste, or otherwise.

Subd. 8. "Disposal system" means a system for disposing of sewage, industrial waste and other wastes, and includes sewer systems and treatment works.

Subd. 9. "Waters of the state" means all streams and lakes, including all rivers and lakes bordering on the state, marshes, watercourses, state, county, town or judicial drainage systems and other bodies of water, natural or artificial, public or private, of such character that the pollution thereof may create a nuisance or be either actually or potentially harmful or detrimental to the public health, safety or welfare, or to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life. (Revised)

Subd. 10 "Person" means any municipality, governmental subdivision, public or private corporation, individual, partnership, or other entity. (Revised)

Section 115.02. Water Pollution Control. Subdivision 1. Commission created; members, compensation. There is hereby created a water pollution control commission, hereinafter referred to as the commission, which shall consist of the secretary and executive officer of the state board of health, the commissioner of conservation, the commissioner of agriculture, the secretary and executive officer of the state livestock sanitary board, and three members at large who shall be appointed by the governor, by and with the advice and consent of the senate. The terms of the first members at large serving after the enactment of this provision shall expire respectively on March 1st of the second, fourth, and sixth years following such enactment, and the succeeding regular terms of the members at large shall be six years after such expiration dates. Any vacancy in a membership at large shall be filled by the governor for the unexpired term. Members at large shall serve until their successors shall have been appointed and qualified. The governor, so far as practicable, shall appoint one member at large who is interested in water pollution control from the standpoint of the general public, one who is experienced in the field of municipal government, and one who is experienced in the field of industry. No person who is actively engaged in an official or business capacity or otherwise in any such field shall thereby be disqualified from serving as a member of the commission, but a member at large shall have no vote in any case involving a municipality or industry in which he is personally, officially, or financially interested; provided, that the determination of the commission in any such case shall not be questioned on account of this provision. The members at large shall receive no compensation for their services but they shall receive necessary and actual traveling and subsistence expenses for any meeting of the commission or for trips which they may make in connection with the work of the commission. The other members of the commission shall receive no additional compensation for their services as members of the commission, but shall receive their necessary and actual traveling and subsistence expenses while engaged in the business of the commission, which shall be paid from the appropriations to their several departments.

Subd. 2. Meetings; officers. The commission shall hold quarterly regular meetings each calendar year at a time and place to be fixed by the commission. It shall select at its first meeting following the passage and approval of Laws 1945, Chapter 395, two of its members to serve as chairman and vice-chairman, respectively, and at the first regular meeting in each calendar year thereafter which shall be held in January, it shall select two of its members to serve for the ensuing year as chairman and vice-chairman, respectively. The secretary and executive officer of the state board of health shall serve as secretary of the commission and shall have custody of its files and records except such as are required to be filed with the secretary of state or otherwise. Special meetings of the commission may be called by the chairman or by any two other members upon at least two days' written notice mailed to each other member of the commission or delivered at their respective offices. A majority of members of the commission shall constitute a quorum.

Section 115.03. Powers and Duties. Subdivision 1. The commission is hereby given and charged with the following powers and duties:

To administer and enforce all laws relating to the pollution of any of the waters of the state;

To investigate the extent, character, and effect of the pollution of the waters of this state and to gather data and information necessary or desirable in the administration or enforcement of pollution laws, and to make such classification of the waters of the state as it may deem advisable;

To establish and alter such reasonable pollution standards for any waters of the state in relation to the public use to which they are or may be put as it shall deem necessary for the purposes of sections 144.371 to 144.379;

To make and alter reasonable orders requiring the discontinuance of the discharge of sewage, industrial waste or other wastes into any waters of the state resulting in pollution in excess of the applicable pollution standard established under this subdivision;

To require to be submitted and to approve plans for disposal systems or any part thereof and to inspect the construction thereof for compliance with the approved plans thereof;

To issue, continue in effect or deny permits, under such conditions as it may prescribe for the prevention of pollution, for the discharge of sewage, industrial waste or other wastes, or for the installation or operation of disposal systems or parts thereof;

To revoke or modify any permit issued under sections 144.371 to 144.379 whenever it is necessary, in the opinion of the commission, to prevent or abate pollution of any waters of the state;

To prescribe and alter rules and regulations, not inconsistent with law, for the conduct of the commission and other matters within the scope of the powers granted to and imposed upon it by sections 144.371 to 144.379, provided that every rule or regulation affecting any other department or agency of the state, or any person other than a member or employee of the commission shall be filed with the secretary of state; and

To conduct such investigations and hold such hearings as it may deem advisable and necessary for the discharge of its duties under sections 144.371 to 144.379, and to authorize any member, employee, or agent appointed by it to conduct such investigations or hold such hearings.

Subd. 2. In any such hearing or investigation, any member of the commission, or any employee or agent thereto authorized by the commission, may administer oaths, examine witnesses, and issue, in the name of the commission, subpoenas requiring the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in any such hearing or investigation. Witnesses shall receive the same fees and mileage as in civil actions.

Subd. 3. In case of contumacy or refusal to obey a subpoena issued under this section, the district court of the county where the proceeding is pending or in which the person guilty of such contumacy or refusal to obey is found or resides, shall have jurisdiction upon application of the commission or its authorized member, employee or agent to issue to such person an order requiring him to appear and testify or produce evidence, as the case may require, and any failure to obey such order of the court may be punished by said court as a contempt thereof.

Section 115.04. Disposal Systems. Subdivision 1. Information. Any person operating a disposal system, when requested by the commission, shall furnish to it any information which he may have which is relevant to the subject of sections 144.371 to 144.379.

Subd. 2. Examination of records. The commission or any employee or agent thereof, when authorized by it, may examine any books, papers, records or memoranda pertaining to the operation of a disposal system.

Subd. 3. Access to premises. Whenever it shall be necessary for the purposes of sections 144.371 to 144.379, the commission or any member, employee, or agent thereof, when authorized by it, may enter upon any property, public or private, for the purpose of obtaining information or conducting surveys or investigations.

Section 115.05. Final Order. Subdivision 1. Notice; hearing. No final order of the commission shall be effective as to the vested rights of any person adversely affected thereby nor as to any disposal system operated by any person unless the commission or its authorized officer, member, or agent shall have held a hearing upon the matter therein involved at which evidence may be taken, of which hearing such person shall have had notice as hereinafter provided. Any person who will be directly affected by the final order therein shall have the right to be heard at the hearing and to submit evidence thereat. Written notice specifying the time and place of the hearing shall be served by the commission upon all persons known by it to be directly affected by the final order, personally or by registered mail not less than ten days before the date of the hearing. A copy of the final order shall be served in the same manner upon all persons who entered an appearance at the hearing.

Subd. 2. Emergency order. Notwithstanding the provisions of subdivision 1 of this section, the commission, when it shall have first determined that an emergency exists respecting any matter affecting the public health, may make a final order without notice and without a hearing. A copy of such final order shall be served as provided in subdivision 1 of this section.

Subd. 3. Appeal. An appeal may be taken from any final order, rule, regulation, or other final decision of the commission by any person who is or may be adversely affected thereby, or by the attorney general in behalf of the state, to the district court of Ramsey county in the manner herein provided. Within 30 days after receipt of a copy of the order, rule, regulation, or decision, or after service of notice thereof by registered mail, but not in any case more than six months after the making and filing of the order, rule, regulation or decision, the appellant or his attorney shall serve a notice of appeal on the commission, through its secretary; provided, that during such 30 day period the court may, for good cause shown, extend such time for not exceeding an additional 60 days, but not beyond the expiration of such six months' period. The notice of appeal shall refer to the action of the commission appealed from, shall specify the grounds of the appeal, including points of both law and fact which are asserted or questioned by the appellant, and may contain any other allegations or denials of fact pertinent to the appeal. The notice shall state an address within the state at which service of notice and other papers in the matter may be made upon the appellant. The original notice of appeal, with proof of service, shall be filed by the appellant or his attorney with the clerk of the court within ten days after service of the notice, and thereupon the court shall have jurisdiction of the appeal.

Subd. 4. Intervention by state. The appellant and the commission shall in all cases be deemed the original parties to an appeal. The state, through the attorney general, or any other person affected may become a party by intervention as in a civil action, upon showing cause therefor. The attorney general shall represent the commission, if requested, upon all such appeals unless he appeals or intervenes in behalf of the state. No bond or deposit for costs shall be required of the state or the commission upon any such appeal or upon any subsequent appeal to the supreme court or other court proceedings pertaining to the matter.

Subd. 5. Venue of appeal. The venue of an appeal may be changed by order of the court upon written consent of the parties or for cause shown, after hearing upon notice to all parties, as in a civil action, to the district court of any county in which the order, rule, regulation, or decision appealed from would take effect.

Subd. 6. Record on appeal. Within 30 days after service and filing of the notice of appeal the commission, through its secretary, shall make, certify, and file with the clerk of the court having jurisdiction of the appeal a return comprising a copy of any application, petition, or other material paper whereon the action of the commission appealed from was based, a copy of the order, rule, regulation, or decision appealed from, a statement of any findings of fact or rulings or conclusions of law made by the commission in the matter, and such other statements, admissions, or denials upon questions of law or fact raised by the appeal as the commission may deem pertinent. Such 30 day period may be extended by the court for cause shown for not exceeding an additional 60 days. Within the time allowed for making and filing the return a copy thereof shall be mailed to or served upon the appellant or his attorney. The allegations of new matter in the return shall be deemed to be denied by the appellant unless expressly admitted, and no further pleadings shall be interposed. Otherwise the allegations of the notice of appeal and return shall have like effect as the pleadings in a civil action and shall be subject to like proceedings, so far as applicable.

Subd. 7. Appeals as in civil actions. The appeal shall be heard and determined by the court upon the issues raised by the notice of appeal and return according to the rules relating to the trial of civil actions, so far as applicable. The court of its own motion or on application of any party may, in its discretion, take additional evidence on any issue of fact or may try any or all such issues de novo, but no jury trial shall be had. If the court shall determine that the action of the commission appealed from is lawful and reasonable, and is warranted by the evidence in case an issue of fact is involved, the action shall be affirmed. Otherwise the court may vacate, or suspend the action appealed from in whole or in part, as the case may require, and thereupon the matter shall be remanded to the commission for further action in conformity with the decision of the court.

Subd. 8. Stay. The taking effect of any action of the commission shall not be stayed by an appeal except by order of the court for cause shown by the appellant. The granting of a stay may be conditioned upon the furnishing by the appellant of such reasonable security for costs as the court may direct. A stay may be vacated on application of the commission or any other party after hearing upon notice to the appellant and to such other parties as the court may direct.

Subd. 9. Order prima facie reasonable and valid. In any appeal or other proceeding involving any order, rule, regulation, or other decision of the commission, the action of the commission shall be prima facie reasonable and valid, and it shall be presumed that all requirements of the law pertaining to the taking thereof have been complied with. All findings of fact made by the commission shall be prima facie evidence of the matters therein stated. The burden of proving the contrary of any provision of this subdivision shall rest upon the appellant or other party questioning the action of the commission.

Subd. 10. Collateral attack. If no appeal be taken from an order, rule, regulation, or other decision of the commission as herein provided, or if the action of the commission be affirmed on appeal the action of the commission in the matter shall be deemed conclusive, and the validity and reasonableness thereof shall not be questioned in any other action or proceeding but this shall not preclude the authority of the commission to modify or rescind its actions.

Section 115.06. Cooperation. Subdivision 1. With other sovereign states. The commission, so far as it is not inconsistent with its duties under the laws of this state, may assist and cooperate with any agency of another state, of the United States of America or of the Dominion of Canada or any province thereof in any matter relating to water pollution control.

Subd. 2. Funds received from persons or agencies. The commission may receive and accept money, property, or services from any person or from any agency described in subdivision 1 or from any other source for any water pollution control purpose within the scope of its functions under sections 144.371 to 144.379, and all moneys so received are hereby appropriated for such purposes in like manner and subject to like provisions of law as the corresponding appropriations of state funds.

Section 115.07. Violations and Prohibitions. Subdivision 1. Obtain permit. It shall be unlawful for any person to construct, install or operate a disposal system, or any part thereof, until plans therefor shall have been submitted to the commission unless the commission shall have waived the submission thereof to it and a written permit therefor shall have been granted by the commission.

Subd. 2. Systems now operating. The commission, upon application of the appropriate person, shall issue a permit for the continuance of every disposal system now operating pursuant to proper legal authority subject, however, to the right of the commission to modify or revoke such permit in the same manner as other permits.

Subd. 3. Permission for extension. It shall be unlawful for any person to make any change in, addition to or extension of any existing disposal system or part thereof that would materially alter the method or the effect of treating or disposing of the sewage, industrial waste or other wastes, or to operate such system, or part thereof as so changed, added to, or extended until plans therefor shall have been submitted to the commission unless the commission shall have waived the submission thereof to it and a written permit therefor shall have been granted by the commission.

Subd. 4. Injunction. Pollution of any waters in violation of any provisions of sections 144.371 to 144.379, or of any order or regulation adopted by the commission thereunder shall constitute a public nuisance, and may be enjoined and abated as such as provided by law.

Subd. 5. Preliminary notice in tort actions. Every person who claims damages from the holder of a permit issued under sections 144.371 to 144.379 for the operation of a disposal system or from any employee or agent of such permit holder for or on account of any loss or injury sustained by reason of the operation of such system in respect of the treatment or disposal of sewage, industrial waste, or other wastes therein, or by reason of the discharge of any effluent therefrom, shall cause to be presented to such permit holder and to the secretary of the commission within 30 days after the alleged loss or injury occurred a written notice, stating the time, place and circumstances thereof, and the amount of compensation or other relief demanded. No action therefor shall be maintained unless such notice has been given, or if commenced within ten days thereafter or more than one year after the occurrence of the loss or injury.

Subd. 6. Penalty. Violation of any provision of sections 144.371 to 144.379 or of any regulation adopted by the commission thereunder shall be a misdemeanor.

Section 115.08. Interpretation. Sections 144.371 to 144.379 shall not be construed as repealing any of the provisions of law relating to the pollution of any waters of the state, but shall be held and construed as supplementing the same and in addition to the laws now in force, except as the same may be in direct conflict herewith.

Section 115.09. Citation. Sections 144.371 to 144.379 may be cited as the State Water Pollution Control Act.

POLLUTION OF WATERS AFFECTING THE PUBLIC HEALTH

Sections 144.38 to 144.40, Minnesota Statutes 1949, which are set out below, authorize the State Board of Health to investigate the extent, character and effect of the pollution of the public waters of the State so far as such pollution affects the public health. Cooperation with all public and private agencies working to protect waters of the State from pollution is directed. Furthermore, the State Board of Health is required to designate, with the approval of the Water Pollution Control Commission, a qualified and experienced sanitary engineer to act as the commission's executive engineer, and to furnish such other services as the Commission might need in its administration of the State Water Pollution Control Act.

Section 144.38. Pollution of Waters. Subdivision 1. Board to administer laws. The board is hereby given and charged with the power and duty of administering and enforcing all laws relating to the pollution of any of the waters of this state, so far as such pollution affects the public health.

Subd. 2. Duty of Board. The board shall make such investigations of water pollution and the plans for the construction of works affecting water pollution as may be required by the water pollution control commission. The board shall furnish to such commission such other service as the commission may need in the administration of the State Water Pollution Control Act, including the employment of a qualified and experienced sanitary engineer, who shall be designated by the board, with the approval of the commission and shall act as the commission's executive engineer and perform such duties as it prescribes.

Subd. 3. Cooperation. The board is hereby specifically authorized to cooperate with other departments of state, other state officers, with municipalities of all kinds, with other states, the United States, the Dominion of Canada or any province thereof, industries, societies, corporations, and individuals, to the end and purpose of protecting and freeing the waters of the state from pollution.

Section 144.39. Hearings and Investigations. To carry out the purpose of sections 144.38 to 144.41, the board is hereby authorized to hold such hearings or investigations as it may deem advisable, and in any such hearing or investigation any member of the board or the secretary thereof or any officer or agent of the board appointed by it to hold such hearing or investigation shall have the power to subpoena witnesses, to administer oaths, and to compel the production of books, papers, records, and other evidence. Witnesses shall receive the same fees and mileage as in civil actions. Disobedience of any subpoena in such proceeding or contumacy of a witness, upon application of the board, may be punished by the district court in the same manner as if the proceeding were pending in such court.

Section 144.40. Cooperation with Board. The board, for the purpose of assisting in the performance of its duties under sections 144.38 to 144.41, may receive and accept any money, property, or services, or any form of cooperation from any person, firm, corporation, municipal corporation, the state, or any of its departments or officers, or any other state, or the United States.

* * *

EXHIBIT II

S.F. No. 243
Chapter No.
874

AN ACT

RELATING TO WATER POLLUTION, PROVIDING FOR THE PREVENTION, CONTROL, AND ABATEMENT THEREOF BY THE CONSTRUCTION AND OPERATION OF MUNICIPAL SEWAGE DISPOSAL SYSTEMS AND OTHERWISE: AMENDING MINNESOTA STATUTES 1961, SECTION 115.01, SUBDIVISIONS 9 AND 10

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. Subdivision 1. The definitions given in this section shall obtain for the purposes of this act except as otherwise expressly provided or indicated by the context.

Subd. 2. "Commissioner" means the commissioner of administration.

Subd. 3. "Commission" means the water pollution control commission.

Subd. 4. "Municipality" means a city, village, borough, sanitary district, or other governmental subdivision or public corporation.

Subd. 5. The definitions given in Minnesota Statutes 1961, Section 115.01, as now in force or hereby or hereafter amended, shall govern for the purposes of this act except as otherwise expressly provided or indicated by the context.

Section 2. Minnesota Statutes 1961, Section 115.01, Subdivision 9, is amended to read:

Subd. 9. "Waters of the state" means all streams, and lakes, ~~including-all-rivers-and-lakes-bordering-on-the state~~, ponds, marshes, watercourses, ~~state,-county,-town-or judicial~~ waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, ~~of-such-character-that-the pollution-thereof-may-create-a-nuisance-or-be-either actually-or-potentially-harmful-or-detrimental-to-the-public health,-safety-or-welfare,-or-to-domestic,-commercial, industrial-or-recreational-use,-or-to-livestock,-wild animals,-birds,-fish,-or-other-aquatic-life.~~ which are contained within, flow through, or border upon the state or any portion thereof.

Sec. 3. Minnesota Statutes 1961, Section 115.01, Subdivision 10, is amended to read:

Subd. 10. "Person" means the state or any agency or institution thereof, any municipality, governmental subdivision, public or private corporation, individual, partnership, or other entity, and includes any officer or governing or managing body of any municipality, governmental subdivision, or public or private corporation.

Sec. 4. It is the policy of the state to provide for the prevention, control, and abatement of pollution of all waters of the state, so far as feasible and practical, in furtherance of conservation of such waters and protection of the public health and in furtherance of the development of the economic welfare of the state. The commission shall prepare a long-range plan and program for the effectuation of said policy, and shall make a report of progress thereon during each biennium to the legislature at the beginning of each regular session, with recommendations for action in furtherance of such program during the ensuing biennium. It is the purpose of this act to safeguard the waters of the state from pollution by: (a) preventing any new pollution; and (b) abating pollution existing when this act becomes effective, under a program consistent with the declaration of policy above stated.

Sec. 5. Subdivision 1. In addition to the other powers prescribed by law, the commission shall have the powers and duties prescribed in this section. In exercising all such powers the commission shall give due consideration to the establishment, maintenance, operation and expansion of business, commerce, trade, industry, traffic and other economic factors and other material matters affecting the feasibility and practicability of any proposed action, including, but not limited to, the burden on a municipality of any tax which may result therefrom and shall take or provide for such action as may be reasonable, feasible and practical under the circumstances.

Subd. 2. Acting within the scope of the policy and purposes of this act, the commission may adopt, promulgate, amend, or rescind regulations in the manner provided by law, as may be necessary or proper to carry into effect the provisions of this act.

Subd. 3. The commission may issue, modify, or revoke orders after due notice and hearing for the following purposes when deemed necessary to prevent, control, or abate pollution:

(1) Prohibiting or directing the abatement of any discharge of sewage, industrial waste, or other wastes, into any waters of the state or the deposit thereof where the same is likely to get into any waters of the state in accordance with the provisions of this act and specifying the conditions and time within which such prohibition or abatement must be accomplished;

(2) Prohibiting the storage of any liquid in a manner which does not reasonably assure proper retention against entry into any waters of the state that would be likely to pollute any waters of the state;

(3) Requiring the construction, installation, maintenance, and operation by any municipality of any disposal system or any part thereof or the reconstruction, alteration, or enlargement of its existing disposal system or any part thereof, or the adoption of other remedial measures to prevent, control or abate pollution or to prevent, control or abate any discharge or deposit of sewage, industrial waste or other wastes by any municipality;

(4) Except as otherwise provided herein in the case of municipalities, the provisions of Minnesota Statutes 1961, Section 115.05 shall apply to proceedings under this act.

Sec. 6. Subdivision 1. It is recognized that, due to variable factors, no single standard of quality and purity of the waters is applicable to all waters of the state or to different segments of the same waters.

Subd. 2. In order to attain the objectives of this act, the commission after proper study, and after conducting public hearing upon due notice, shall, as soon as practicable, group the designated waters of the state into classes, and adopt classifications and standards of purity and quality therefor. Such classification shall be made in accordance with considerations of best usage in the interest of the public and with regard to the considerations mentioned in subdivision 3 hereof.

Subd. 3. In adopting the classification of waters and the standards of purity and quality above mentioned, the commission shall give consideration to:

(a) The size, depth, surface area covered, volume, direction and rate of flow, stream gradient and temperature of the water;

(b) The character of the district bordering said waters and its peculiar suitability for the particular uses, and with a view to conserving the value of the same and encouraging the most appropriate use of lands bordering said waters, for residential, agricultural, industrial, or recreational purposes;

(c) The uses which have been made, are being made, or may be made of said waters for transportation, domestic and industrial consumption, bathing, fishing and fish culture, fire prevention, the disposal of sewage, industrial wastes and other wastes or other uses within this state, and, at the discretion of the commission, any such uses in another state on interstate waters flowing through or originating in this state;

(d) The extent of present defilement or fouling of said waters which has already occurred or resulted from past discharges therein;

(e) The need for standards for effluent from disposal systems entering waters of the state;

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(f) Such other considerations as the commission deems proper.

Subd. 4. The commission, after proper study, and after conducting public hearings upon due notice, shall adopt and design standards of quality and purity for each such classification necessary for the public use or benefit contemplated by such classification. Such standards shall prescribe what qualities and properties of water shall indicate a polluted condition of the waters of the state which is actually or potentially deleterious, harmful, detrimental or injurious to the public health, safety or welfare, to terrestrial or aquatic life or to the growth and propagation thereof, or to the use of such waters for domestic, commercial and industrial, agricultural, recreational or other reasonable purposes, with respect to the various classes established pursuant to subdivision 2 hereof, and may contain such other provisions as the commission deems proper. Wherever practicable and advisable the commission shall establish standards for effluent of disposal systems entering classified waters.

Subd. 5. In establishing such standards, consideration should be given to the following factors:

(a) The extent, if any, to which floating solids may be permitted in the water;

(b) The extent to which suspended solids, colloids or a combination of solids with other substances suspended in water, may be permitted;

(c) The extent to which organisms of the coliform group (intestinal bacilli) or any other bacteriological organisms may be permitted in the water;

(d) The extent of the oxygen demand which may be permitted in the receiving waters;

(e) Such other chemical or biological properties necessary for the attainment of the objectives of this act.

Subd. 6. The adoption, alteration or modification of the standards of quality and purity, above prescribed, shall be made by the commission only after public hearing on due notice.

Subd. 7. Notices of public hearing for the consideration, adoption, modification, alteration or amendment of the classification of waters and standards of purity and quality thereof shall specify the time, date and place of hearing, and the waters concerning which classification is sought to be made or for which standards are sought to be adopted or modified.

Copies of said notice shall:

(a) Be published at least twice in a newspaper regularly published or circulated in the county or counties bordering or through which the waters sought to be classified, or for which standards are sought to be adopted, flow, the first date of publication of which shall not be more than 30 days nor less than 20 days before the date fixed for such hearing; and

(b) Be mailed at least 20 days before such hearing to the chief executive of each municipality bordering or through which said waters, for which stanards are sought to be adopted, flow, and to such other persons as the commission has reason to believe may be affected by the proposed standards.

Sec. 7. Subdivision 1. It is the duty of every person affected to comply with the provisions of this act and of Minnesota Statutes 1961, Section 115.01 to 115.09, comprising the state water pollution control act, as now in force or hereafter amended, and all regulations, orders, and permits adopted or issued by the commission thereunder, and to do and perform all acts and things within his or its power required to effectuate, carry out, and accomplish the purposes of such provisions, regulations, orders, and permits.

Subd. 2. It is unlawful for any person to cause pollution of any waters of the state in excess of or contrary to any applicable standard of water quality established, regulation adopted, or order issued by the commission, or to discharge any sewage, industrial wastes, or other wastes into any waters of the state or to deposit any thereof where the same is likely to get into any waters of the state in excess of or contrary to any such standard, regulation, or order. Any such pollution, discharge, or deposit is a public nuisance and may be enjoined and abated as such as provided by law.

Sect. 8. Subdivision 1. Any taxes, special assessments, levied or to be levied, and any bonds or other evidences of indebtedness issued or to be issued for the construction, installation, maintenance, or operation by a municipality of any disposal system or part thereof, shall not be subject to any limitation and shall be excluded in computing amounts subject to any limitation on tax levies, special assessments, bonded indebtedness or other indebtedness and the governing or managing body and the proper officers of the municipality concerned shall have the power and, to comply with any order of the commission, it shall be their duty to levy such taxes and special assessments and issue such bonds and take such other lawful actions as may be appropriate and necessary to provide funds to meet the cost of such construction or work, notwithstanding any such limit and without any election or referendum therefor. A recital in any bond, tax levy, or assessment that the same is issued or made for the purposes of a disposal system or any part thereof ordered by the commission and is not subject to any provisions of law prescribing limits or requiring an election or referendum therefor shall be prima facie evidence thereof and that all requirements of law relating thereto have been complied with. In any suit, action, or proceedings involving the validity or enforceability of any bonds of a municipality or the security therefor, any such bond reciting in substance that it has been issued by the municipality to aid in financing a sewage disposal system or part thereof, shall be conclusively deemed to have been issued for such purpose, and in compliance with all requirements of the law relating thereto.

Subd. 2. For the same purposes as the purposes for which a tax may be levied under subdivision 1 of this section, a municipality may levy taxes in anticipation of need and the provision of subdivision 1 shall be applicable so far as appropriate to any such anticipatory levy. If such a tax is levied in anticipation of need, the purpose must be specified in the resolution of the governing body directing the levy, and proceeds of the tax must be used only for that purpose, and until used the proceeds shall be retained in a separate fund or invested as surplus in a sinking fund may be invested under Minnesota Statutes, Section 475.66.

Sec. 9. Subdivision 1. The provisions of this act and of Minnesota Statutes 1961, Sections 115.01 to 115.09 and of any regulation adopted or order or permit issued by the commission thereunder or under any other law now in force or hereafter enacted for the prevention, control, or abatement of pollution may be enforced by injunction, action to compel performance, or other appropriate action. The attorney general shall bring any action required therefor in the name of the state at the request of the commission.

Subd. 2. In any action to compel performance of an order of the commission for any purpose relating to the prevention, control, or abatement of pollution the court may require any defendant adjudged responsible to do and perform any and all acts and things within his or its power which are reasonably necessary to accomplish the purposes of the order. In case a municipality or its governing or managing body or any of its officers is a responsible defendant, the court may require it or him to exercise its or his powers, without regard to any limitation or any requirement for an election or referendum imposed thereon by law, to do any or all of the following, without limiting the generality hereof: To levy taxes, levy special assessments, prescribe service or use charges, borrow money, issue bonds, employ assistance, acquire real or personal property, let contracts or otherwise provide for the doing of work or the construction, installation, maintenance, or operation of facilities, and do all other acts and things reasonably necessary to accomplish the purposes of the order.

Sec. 10. Subdivision 1. In lieu of enforcement action as provided by section 9, the commission, in case of failure by any municipality or its governing or managing body or officers to comply with any order of the commission for the construction, installation, maintenance, or operation of a disposal system or part thereof, may by resolution assume the powers of the legislative authority of the municipality and confer on the commissioner the powers of the administrative officers of the municipaly relating to the construction, installation, maintenance, or operation of a disposal system, or part thereof, or issuing bonds and levying taxes therefor, after holding a hearing on the case as provided by Minnesota Statutes 1961, Sections 115.03 and 115.05, upon notice specifying the particulars of the alleged failure to comply with the order and the powers proposed to be assumed for the purpose of remedying such failure. The resolution shall include or have attached thereto a copy of the order, shall set forth the findings of the commission as to failure of compliance therewith after the hearing thereon, and shall set forth the powers assumed and determine the action to be taken. Certified copies of the resolution and order shall be transmitted by the secretary of the commission to the commissioner and to the clerk or other recording officer of the municipality concerned. The resolution and order and certified copies thereof shall be prima facie evidence that the order is reasonable and valid, that all requirements of law relating thereto and to the hearing thereon have been complied with by the commission, that the municipality and its governing or managing body and officers have failed to comply with the order as set forth in the resolution, and that the powers so assumed are vested in the commission and the commissioner as therein set forth. Thereupon the commission and the commissioner shall have charge of the case, and all other proceedings for enforcement of the order shall be suspended until the authority of the commissioner in the case has been terminated as hereinafter provided. At this stage of the case there is a right of judicial review, and the resolution and attached order shall be deemed a final order for the purpose of judicial review, but failure at this stage to seek judicial review does not preclude judicial relief at a subsequent stage where, and in a manner, otherwise appropriate.

Subd. 2. Upon the assumption of powers as provided in subdivision 1, all the powers of the municipality and its governing or managing body and officers with respect to the subject matter of the order shall thereby be forthwith transferred to and vested in the commission and the commissioner, and they shall thereafter exercise the same in the name of the municipality or its governing or managing body or officers, as the case may require, until terminated as hereinafter provided. Such powers shall include, without limitation, the power to levy taxes, to certify such taxes for collection, to levy assessments on benefited property, to prescribe service or use charges, to borrow money, to issue bonds, to employ necessary assistance, to acquire necessary real or personal property, to let contracts or otherwise provide for the doing of work or the construction, installation, maintenance, or operation of facilities, and to do and perform for the municipality or its governing or managing body or officers all other acts and things required to effectuate, carry out, and accomplish the purposes of the order and which might have been done or performed by the municipality or its governing or managing body or officers. The exercise of any and all such powers by the commission and the commissioner shall have like force and effect as if the same had been exercised by the municipality or by its governing or managing body or officers. All such acts or things done or performed by the commission or the commissioner shall be prima facie lawful and valid, and it shall be presumed that all requirements of law or charter relating thereto have been complied with. Any bond pursuant to this section in the hands of a holder in good faith and for value reciting that such bond is issued for the purposes of a disposal system, or part thereof, pursuant to the order of the commission under this section shall be conclusively deemed to have been issued for such purpose and in compliance with all requirements of law relating thereto and shall be a valid and binding instrument enforceable against the municipality in accordance with its terms. The impact on a municipality of taxes or special assessments which are likely to result from compliance with an order made under section 5, subdivision 3, clause (1), weighed against the urgency of the need for compliance in the light of public health and the policy and purposes of this act shall be a relevant consideration in any judicial inquiry into the reasonableness of the order.

Subd. 3. Except as otherwise provided herein, all proceedings of the commission or the commissioner under subdivision 2 shall be governed by the laws or charter provisions governing like proceedings of the governing or managing body or administrative officers of the municipality, so far as applicable, and they shall have like powers and duties with respect thereto as the governing or managing body, the mayor or other presiding officer, the clerk or other recording officer, and any other officer of the municipality having authority in the matter, respectively. In any case where the governing or managing body of the municipality is required to act by motion, resolution, or ordinance, the adoption thereof by resolution or order of the commission shall have like force and effect as adoption by the governing or managing body and approval by the mayor or other presiding officer of the municipality, if required.

Subd. 4. If at any time while the commission and the commissioner have charge of a case as provided in this section, the governing or managing body or the officers of the municipality concerned shall offer to exercise their powers and perform their duties with respect to the subject matter in accordance with the order of the commission, the commission may by order, of which certified copies shall be transmitted to the secretary of the commission and to the clerk or other recording officer of the municipality, reinstate such powers to the extent and subject to any conditions specified in the order, and the governing or managing body or officers of the municipality may thereupon exercise such powers accordingly. Such reinstatement may be revoked by the commission by order in like manner in case it shall determine that the affected powers have not been properly or effectively exercised by the governing or managing body or the officers of the municipality.

Subd. 5. If, at any time while the commission and the commissioner have charge of a case hereunder, the commission shall determine that the further exercise of the powers of the municipality assumed in the case will not be feasible or will not be the most effective procedure for accomplishing the purposes of the commission's order involved, it may by order so declare. Certified copies of the order shall be transmitted by the secretary of the commission to the commissioner and the clerk or other recording officer of the municipality concerned. Thereupon the powers assumed shall be revested in the municipality, and the commission may proceed with enforcement of its order in such manner as may be authorized by law.

Sec. 11. Subdividion 1. If the commission determines after a hearing on the subject matter that cooperation between two or more municipalities is necessary to prevent, control, or abate pollution, it may adopt a resolution so declaring and determining whether it will be feasible to secure such cooperation by contract between the municipalities concerned.

Subd. 2. If the commission determines that procedure by contract will be feasible, it may issue an order so declaring, setting forth the general purposes and terms of a proposed contract under any applicable law, determining, among other things, which of the municipalities concerned shall have charge of any facilities constructed, and directing the municipalities concerned to formulate and execute such contract within such time as the commission may specify in the order, but not less than 90 days from the date of mailing copies of the order to the clerks or other recording officers of such municipalities or service thereof upon them. If a contract approved by the commission as sufficient for the purposes set forth in the order is not made within the time therein specified, the commission may refer the case to the commissioner as provided in section 10. Thereupon and thereby all the appropriate contractual powers of each municipality concerned and its governing or managing body and officers shall be transferred to and vested in the commissioner. The commissioner may then formulate a contract in accordance with the commission's order, with necessary counterparts, and execute the same in the name of each municipality concerned, with like force and effect as if executed by their officers as provided by law or charter. An executed counterpart of the contract shall be delivered or sent by certified mail by the commissioner to the clerk or other recording officer of each municipality concerned, and the contract shall thereupon take effect and be binding on such municipalities.

Subd. 3. Any contract for disposal of sewage, industrial wastes, or other wastes or for the construction, maintenance, or operation of any facilities therefor heretofore or hereafter executed between two or more municipalities may be renegotiated, reviewed, and revised or modified with respect to rates or charges or any other provision by agreement of the parties to the contract, any provision of law, charter, or the contract to the contrary notwithstanding.

Subd. 4. Any municipality which is a party to a contract for any of the purposes specified in subdivision 3 and which operates a plant for the disposal of sewage, industrial wastes, or other wastes, or which is a city of the first class comprising a part of a sanitary district under Minnesota Statutes, Chapter 445 upon written notice to the other party or parties, fix new rates and charges for the service performed under the contract, notwithstanding any provision of law, charter, or the contract to the contrary. Any other party or parties to such a contract with a municipality which operates such a plant, or with a city of the first class comprising a part of a sanitary district under Minnesota Statutes, Chapter 445 upon written notice to such municipality, demand that new rates and charges be fixed for service performed under the contract, notwithstanding any provision of law, charter, or the contract to the contrary. Whenever notice is given as provided herein, it shall be the duty of the municipality operating the plant for the disposal of sewage, industrial wastes, or other wastes, or a city of the first class comprising a part of a sanitary district under Minnesota Statutes, Chapter 445, to hold a hearing for the determination of proper rates and charges. A valid notice given under this subdivision of a demand to fix new rates and charges as to any contract precludes another such notice by any party as to that contract for a period of five years from the time of the notice, or the time of dismissal of proceedings under a notice, or the time of determination of rates and charges by the affected agencies or by judgment, as the case may be, whichever of these events is last, but there may always be a contract change under subdivision 3 of this section; provided there can be no such demand as of right within the first five years of a contract. A municipality which may be affected by determination of new rates and charges in such a proceeding may participate in the proceeding as an interested third party by filing a notice of its intention to so participate with the clerk of the municipality to which the original notice was directed. If any party to the contract involved in the proceeding initiated by notice of demand for new rates and charges is dissatisfied with the rates and charges as set in the proceeding it may within 30 days after such determination by written notice given to the other party or parties elect to submit the matters in dispute to a board of arbitration which shall be created as follows: The municipality making such written election shall in such written election appoint a referee; the other municipality shall within ten days after such election and appointment also appoint a referee; the two referees shall appoint a third referee, or if they fail for ten days to do so, unless the municipalities mutually extend the time for them to do so the district court of a judicial district which is mutually agreeable to the municipalities shall make the appointment of the third referee. A decision of the majority of the board shall be a decision of the board. Each municipality shall pay the compensation of the referee appointed by it, and one-half of the compensation of the third referee, such compensation to be at the rate usually charged by such person for services in his profession or occupation. The hearing initiated by the notice of demand to fix new rates and charges and all proceedings in connection therewith shall be in conformity with Minnesota Statutes, Sections 15.0418 to 15.0422 and the municipality conducting the hearing is an agency as such term is used in such sections. Any party to the contract aggrieved by the decision or order made in conformity with such provisions shall be entitled to judicial review in the district court in the county in which such decision or order was made and in the manner provided in subdivision 5. The new rates and charges established by the agency upon the initial demand will continue until the proper rates and charges are finally determined, notwithstanding submission to arbitration or judicial review, but the order or judgment which finally determines legality will provide for adjustment of overpayment or underpayment, if any, during the period after the new rates and charges were initially fixed.

All records of any municipality relating to such rates and charges shall be available at all reasonable times for examination by any municipality.

Subd. 5. Any party to the contract aggrieved by a decision or order shall be entitled to judicial review thereof by serving a petition therefor upon the municipality making the decision or order and filing the same with proof of service in the office of the clerk of such court, all within 30 days after the decision or order has been made and the parties notified thereof. The petition shall state the nature of the petitioner's interest, and the ground or grounds upon which the petitioner contends the decision or order should be reversed or modified. The petition may be amended by leave of court, though the time for serving the same has expired.

Within 20 days after service of such petition for review, the municipality shall serve upon the petitioner an answer stating its position with reference to the reversal or modification of the order or decision under review.

Such answer with proof of service thereof shall be filed with the clerk of the district court within ten days after such service. No further pleadings shall be necessary. The review shall be noticed for trial as in the case of a civil action and shall take precedence over other civil cases for trial.

The institution of the proceeding for review shall not stay enforcement of the order or decision, but the court may order a stay upon such terms as it deems proper.

Within 30 days after service of the petition for review upon the municipality, or within such further time as the court may allow, the municipality shall transmit to the court the original or a certified copy of the entire record of the proceedings in which such order or decision under review was made, but by stipulation of the parties to the review proceeding, the record may be shortened by eliminating any portion thereof. The record may be typewritten or printed and the exhibits may be typewritten, photostated or otherwise reproduced, or upon motion of any party, or by order of the court, the original exhibits shall accompany the record. The court may require or permit substantial corrections or additions to the record when deemed desirable.

If before the date set for trial an application is made to the court for leave to present additional evidence on the issues in the case, and it is shown to the satisfaction of the court that the additional evidence is material, the court may order that such additional evidence be taken upon such terms as the court may deem proper.

The review shall be conducted by the court without a jury and the court may affirm, reverse or modify the order or decision if the substantial rights of the petitioner have been prejudiced as a result of such order or decision being:

(a) Contrary to constitutional rights or privileges; or

(b) In excess of the statutory authority or jurisdiction of the agency, or affected by other error of law; or

(c) Made or promulgated upon unlawful procedure; or

(d) Unsupported by substantial evidence in view of the entire record as submitted; or

(e) Arbitrary or capricious.

Any party may appeal from the final judgment of the district court to the supreme court in the manner provided by law for other appeals in civil actions.

No party to the review in any court is entitled to recover therein costs or attorney's fees or witness fees or any other disbursement.

Subd. 6. All rates and charges shall be reasonable and shall be sufficient to compensate for all costs of devoting the sewage disposal plant, equipment, its collector system, and personnel to the accomplishment of the purpose of the service to be rendered but shall not include profit. When the sewer system of any municipality or any part thereof is devoted to the use of another municipality, all charges for such use shall be reasonable and shall be sufficient to compensate for all costs of such use, but shall not include profit.

Subd. 7. Nothing in subdivision 4 shall preclude the fixing of rates and charges by agreement of the parties under subdivision 3.

Subd. 8. Any case referred to the commissioner under this section may be remanded to the commission as provided in section 10, subdivision 5.

Sec. 12. For the purposes of carrying out the policy and purposes of this act and of Minnesota Statutes 1961, Sections 115.01 to 115.09, there is hereby conferred upon all towns of this state the power and authority to construct, install, acquire, maintain and operate disposal systems and parts thereof, and to levy taxes, and special assessments, to issue bonds and to do all other things necessary or convenient for such construction, installation, acquisition, maintenance and operation in the same manner and extent and subject to the same limitations as villages.

Sec. 13. The provisions of any contract between two or more municipalities for any purpose relating to the prevention, control, or abatement of pollution, whether now in force or hereafter consummated as provided in section 11 or otherwise, may be enforced by action to compel performance brought by any municipality which is a party to the contract or by the attorney general in the name of the state at the request of the commission. In any such action the court shall have like powers as provided in section 9, subdivision 2, for enforcement of an order of the commission.

Sec. 14. The provisions of this act shall be severable and the invalidity of any section or subdivision or part thereof shall not make void any other section or subdivision or part thereof.

Sec. 15. In any case where the commission has heretofore adopted and established a classification or standards for any waters as then provided by law, the commission, at any hearing held pursuant to the provisions of this section for the purpose of modification, alteration, or amendment of such classification or standards or the adoption and establishment of any classification or standards for the same waters or any part thereof as required by this act, may receive and consider for any such purpose any testimony received at such previous hearing, as reported in the stenographic transcript thereof, and any exhibits received at such previous hearing, which are relevant, with like force and effect and subject to like objections, if any, as if such testimony or exhibits had been produced at the hearing hereunder, together with any further testimony or exhibits which may be submitted and received at the hearing hereunder.

* * *

EXHIBIT III

AN ACT RELATING TO WATER POLLUTION CONTROL AND SANITATION; PROVIDING FOR THE ESTABLISHMENT OF SANITARY REGIONS AND FOR THE CREATION AND ADMINISTRATION OF A WATER POLLUTION CONTROL ADVISORY COMMITTEE AND SANITARY DISTRICTS. (Chapter No. 20, Laws of Minnesota, 1961)

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. (DEFINITIONS.) Subdivision 1. As used in sections 2 and 3 the terms defined in this section have the meanings given them except as otherwise provided or indicated by the context.

Subd. 2. "Commission" means the state water pollution control commission.

Subd. 3. "Region" means a sanitary region created as provided by section 2.

Subd. 4. "Committee" means the advisory committee created as provided by section 3.

Sec. 2. (CONGRESSIONAL DISTRICT A SANITARY REGION.) Each congressional district of the state as now or hereafter established shall constitute a sanitary region for the purposes of sections 1 to 3.

Sec. 3. (ADVISORY COMMITTEE.) Subdivision 1. (MEMBERSHIP.) There is hereby created a water pollution control advisory committee, consisting of two members for each region, who shall be citizens residing in their respective regions. The members of the committee shall be appointed by the governor, with the advice and consent of the senate. Of the members first appointed to the committee, the term of one for each district shall expire March 1 of the second calendar year after his appointment and the term of the other shall expire March 1 of the third calendar year after his appointment, as designated by the governor. The succeeding regular terms of members, shall be three years, beginning on such expiration dates, respectively. Each member shall serve until his successor is appointed and has qualified. The governor may fill any vacancy on the committee for the unexpired term, subject to confirmation by the senate if in session before the end of such term. Officers and employees of governmental subdivisions may serve on the committee but no state officer or employee shall serve thereon. As far as practicable the governor shall select the members of the committee so as to provide appropriate representation for municipal, industry, labor, agriculture and conservation interests. In appointing members of the committee the governor may consider recommendations submitted by any interested person, organization, or the governing body of a governmental subdivision, but shall not be limited thereto.

Subd. 2. (EXPENSES OF MEMBERS.) The members of the committee shall receive no compensation, but shall be reimbursed for their expenses incurred on committee business out of any funds appropriated and available therefor.

Subd. 3. (MEETINGS OF COMMITTEE.) The committee shall meet at St. Paul at the call of the governor as soon as practicable after the appointment of the first members, and thereafter shall hold one regular annual meeting as soon as practicable after January 1 each year and three additional regular quarterly meetings each year at such times and places in St. Paul or Minneapolis as the chairman of the committee shall designate. The regular meetings shall occur on dates coincident with meetings of the commission as far as practicable. The committee may hold special meetings anywhere within the state at the call of its chairman or upon the request of any five members of the committee. A majority of the members of the committee shall constitute a quorum. The vote of a majority of all the members of the committee shall be required for the adoption of any resolution, recommendation, or report.

Subd. 4. (OFFICERS OF COMMITTEE.) The committee at its first meeting and at each regular annual meeting thereafter shall elect a chairman, a vice-chairman, and a secretary, who shall perform the usual duties of their respective offices, to serve until the next regular annual meeting and until their successors are elected and have qualified. Any vacancy in any office may be filled by the committee for the unexpired term at any regular meeting or at any special meeting called for the purpose.

Subd. 5. (SUBCOMMITTEES.) As soon as practicable after his election the chairman shall appoint from the members of the committee four subcommittees, each consisting of three or more members, as follows:

(1) On municipal sewage, public health, safety, and welfare;

(2) On conservation of water, wild life and related problems;

(3) On soil conservation and agricultural problems;

(4) On industrial waste problems.

The committee may create such other subcommittees as it deems advisable.

Each subcommittee shall give special consideration and study to the subject matter indicated by its title.

Subd. 6. (DUTIES OF COMMITTEE.) The duties of the committee are:

(1) To assist the commission in the performance of its statutory powers and duties and in formulating a general statewide comprehensive policy for the conservation,

utilization and development of the water resources and other interrelated natural resources of the state for their most beneficial uses and the prevention, control, and abatement of pollution and the establishment of reasonable pollution standards for the waters of the state;

(2) To maintain liaison between the commission and the communities, industries, and persons concerned with the conservation, utilization, and development of the water resources within the respective regions of the committee members, and to stimulate action by those responsible for dealing with such problems;

(3) To assist in programs designed to inform the public regarding the importance of the conservation, utilization and development of the water resources of the state, and the prevention, control and abatement of water pollution, and of methods of accomplishing such purposes;

(4) To meet with the commission four times each year and at such other times as the commission may request.

Subd. 7. In furtherance of its purposes the committee and its members may jointly or severally investigate and study any problem relating to its duties. The committee shall make and file with the secretary of the commission at least once a year a written report of its findings and recommendations, but shall not as a body make specific recommendations on any proposal for action by the commission. The recommendations of the committee shall be advisory only, and not binding on the commission. The commission shall receive and consider all reports made by the committee or its members and take such action thereon as it deems advisable. A copy of every report made by the committee shall be filed with the governor.

Subd. 8. (RECOMMENDATIONS FOR APPOINTMENT OF COMMISSION MEMBERS.) In case a member at large of the commission is to be appointed by the governor on expiration of a regular term or on the occurrence of a vacancy, the committee may recommend not more than two qualified persons from their own number or others for the position. The governor shall receive and consider all such recommendations but shall not be limited thereto in making the appointment.

Sec. 4. (DEFINITIONS.) Subdivision 1. As used in sections 4 to 23, the terms defined in this section have the meanings given them except as otherwise provided or indicated by the context.

Subd. 2. "Commission" means the state water pollution control commission.

Subd. 3. "District" means a sanitary district created under the provisions of sections 4 to 23.

Subd. 4. "Board" means the board of managers of a sanitary district.

Subd. 5. "Territorial unit" means all that part of the territory of a district situated within a single municipality, a single organized town outside of any municipality, or, in the case of an unorganized area, within a single county.

Subd. 6. "Related governmental subdivision" means a municipality or organized town wherein there is a territorial unit of a district, or, in the case of an unorganized area, the county. "Related governing body" means the governing body of a related governmental subdivision, and, in the case of an organized town, means the town board.

Subd. 7. "Village" means a village organized as provided by Minnesota Statutes 1957, Chapter 412, under the plan other than optional.

Subd. 8. "Municipality" means a city, village, or borough, however organized.

Subd. 9. The terms defined in Minnesota statutes 1957, Section 144.371, as now in force or hereafter amended, have the meanings given them therein.

Sec. 5. A sanitary district may be created under the provisions of sections 4 to 23 for any territory embracing an area or a group of two or more adjacent areas, whether contiguous or separate, but not situated entirely within the limits of a single municipality, for the purpose of promoting the public health and welfare by providing an adequate and efficient systems and means of collecting, conveying, pumping, treating and disposing of domestic sewage and garbage and industrial wastes within the district, in any case where the commission finds that there is need throughout such territory for the accomplishment of such purposes, that such purposes cannot be effectively accomplished throughout such territory by any existing public agency or agencies, that such purposes can be effectively accomplished therein on an equitable basis by a district if created, and that the creation and maintenance of such a district will be administratively feasible and in furtherance of the public health, safety, and welfare; but subject to the following exceptions:

(1) No such district shall be created within 25 miles of the boundary of any city of the first class without the approval of the governing body thereof and the approval of the governing body of each and every municipality in such proposed district by resolution filed with the commission.

Sec. 6. (PROCEEDING TO CREATE DISTRICT.) Subdivision 1. A proceeding for the creation of a district may be initiated by a petition to the commission, filed with its secretary, containing the following:

(1) A request for creation of the proposed district;

(2) The name proposed for the district, to include

the words "sanitary district";

(3) A description of the territory of the proposed district;

(4) A statement showing the existence in such territory of the conditions requisite for creation of a district as prescribed in Section 5;

(5) A statement of the territorial units represented by and the qualifications of the respective signers;

(6) The post office address of each signer, given under his signature. A petition may consist of separate writings of like effect, each signed by one or more qualified persons, and all such writings, when filed, shall be considered together as a single petition.

Subd. 2. Every such petition shall be signed as follows:

(1) For each municipality wherein there is a territorial unit of the proposed district, by an authorized officer or officers pursuant to a resolution of the municipal governing body;

(2) For each organized town wherein there is a territorial unit of the proposed district, by an authorized officer or officers pursuant to a resolution of the town board;

(3) For each county wherein there is a territorial unit of the proposed district consisting of an unorganized

area, by an authorized officer or officers pursuant to a resolution of the county board, or by at least 20 percent of the voters residing and owning land within such unit.

Each such resolution shall be published in the official newspaper of the governing body adopting it and shall become effective 40 days after such publication, unless within said period there shall be filed with the governing body a petition signed by qualified electors of a territorial unit of the proposed district, equal in number to 5 percent of the number of such electors voting at the last preceding election of such governing body, requesting a referendum on the resolution, in which case the same shall not become effective until approved by a majority of such qualified electors voting thereon at a regular election or special election which the governing body may call for such purpose. The notice of any such election and the ballot to be used thereat shall contain the text of the resolution followed by the question: "Shall the above resolution be approved?"

If any signer is alleged to be a landowner in a territorial unit, a statement as to his status as such as shown by the county auditor's tax assessment records, certified by the auditor, shall be attached to or endorsed upon the petition.

Subd. 3. The commission or its agent holding the hearing on a petition may, at any time before the reception of evidence begins, permit the addition of signatures to the petition or may permit amendment of the petition to correct or remedy any error or defect in signature or otherwise except a material error or defect in the description of the territory of the proposed district. No proceeding shall be invalidated on account of any error or defect in the petition unless questioned by an interested party before the reception of evidence begins at the hearing except a material error or defect in the description of the territory of the proposed district. If the qualifications of any signer of a petition are challenged at the hearing thereon, the commission or its agent holding the hearing shall determine the challenge forthwith on the allegations of the petition, the county auditor's certificate of landownership, and such other evidence as may be received.

Subd. 4. Upon receipt of a petition the commission shall cause a hearing to be held thereon, subject to the provisions of Minnesota Statutes 1957, Sections 15.0411 to 15.0422 and other laws not inconsistent therewith now or hereafter in force relating to hearings held under authority of the commission, so far as applicable, except as otherwise provided. Notice of the hearing, stating that a petition for creation of the proposed district has been filed and describing the territory thereof, shall be given by the secretary of the commussion by publication for two successive weeks in a qualified newspaper published within such territory, or, if there is no such newspaper, by publication in a qualified newspaper of general circulation in such territory, also by posting for two weeks in each territorial unit of the proposed district, and by mailing a copy of the notice to each signer of the petition at his address as given therein. Registration of mailed copies of the notice shall not be required. Proof of the giving of the notice shall be filed in the office of the secretary.

Subd. 5. After the hearing and upon the evidence received thereat the commission shall make findings of fact and conclusions determining whether or not the conditions requisite for the creation of a district exist in the territory described in the petition. If the commission finds that such conditions exist it may make an order creating a district for the territory described in the petition under the name proposed in the petition or such other name, including the words "sanitary district", as the commission deems appropriate.

Subd. 6. If the commission after a hearing determines that the creation of a district in the territory described in the petition is not warranted, it shall make an order denying the petition. The secretary of the commission shall give notice of such denial by mail to each signer of the petition. No petition for the creation of a district consisting of the same territory shall be entertained within a year after the date of such an order, but this shall not preclude action on a petition for the creation of a district embracing part of such territory with or without other territory.

Subd. 7. Notice of the making of every order of the commission creating a sanitary district, referring to the date of the order and describing the territory of the district, shall be given by the secretary in like manner as for notice of the hearing on the petition for creation of the district.

Subd. 8. An appeal may be taken from an order of the commission creating or dissolving a district, annexing territory to or detaching territory from a district, or denying a petition for any such action, as now or hereafter provided for appeals from other orders of the commission except that the giving of notice of the order as provided in subdivision 7 shall be deemed notice thereof to all interested parties, and the time for appeal by any party shall be limited to 30 days after completion of the mailing of copies of the order or after expiration of the prescribed period of posting or publication, whichever is latest. The validity of the creation of a district shall not be otherwise questioned.

Subd. 9. Upon expiration of the time for appeal from an order of the commission creating a district, or, in case of an appeal, upon the taking affect of a final judgement of a court of competent jurisdiction sustaining the order, the secretary of the commission shall deliver a certified copy of the order to the secretary of state for filing. Thereupon the creation of the district shall be deemed complete, and it shall be conclusively presumed that all requirements of law relating thereto have been complied with. The secretary of the commission shall also transmit a certified copy of the order for filing to the county auditor of each county and the clerk or recorder of each municipality and organized town wherein any part of the territory of the district is situated and to the secretary of the district board when elected.

Sec. 7. (ANNEXATION, DETACHMENT, AND DISSOLUTION.) Subdivision 1. An area adjacent to an existing district may be annexed thereto upon a petition to the commission stating the grounds therefor as hereinafter provided, signed by an authorized officer or officers of the district pursuant to a resolution of the board, also signed with respect to the area proposed for annexation in like manner as provided for a petition for creation of a district. Except as otherwise provided, a proceeding for annexation shall be governed by the provisions now or hereafter in force relating to proceedings for the creation of districts, so far as applicable. For the purpose of giving the required notices the territory involved shall comprise the area proposed for annexation together with the entire territory of the district. If the commission determines that the requisite conditions exist in the area proposed for annexation together with the territory of the district, it may make an order for annexation accordingly. All taxable property within the annexed area shall be subject to taxation for any existing bonded indebtedness or other indebtedness of the district for the cost of acquisition, construction, or improvement of any disposal system or other works or facilities beneficial to the annexed area to such extent as the commission may determine to be just and equitable, to be specified in the order for annexation. The proper officers shall levy further taxes on such property accordingly.

Subd. 2. An area within a district may be detached therefrom upon a petition to the commission stating the grounds therefor as hereinafter provided, signed by an authorized officer or officers of the district pursuant to a resolution of the board, also signed with respect to the area proposed for detachment in like manner as provided for a petition for creation of a district. Except as otherwise provided, a proceeding for detachment shall be governed by the provisions now or hereafter in force relating to proceedings for the creation of districts, so far as applicable. For the purpose of giving the required notices the territory involved shall comprise the entire territory of the district. If the commission determines that the requisite conditions for inclusion in a district no longer exist in the area proposed for detachment, it may make an order for detachment accordingly. All taxable property within the detached area shall remain subject to taxation for any existing bonded indebtedness of the district to such extent as it would have been subject thereto if not detached, and shall also remain subject to taxation for any other existing indebtedness of the district incurred for any purpose beneficial to such area to such extent as the commission may determine to be just and equitable, to be specified in the order for detachment. The proper officers shall levy further taxes on such property accordingly.

Subd. 3. Different areas may be annexed to and detached from a district in a single proceeding upon a joint petition therefor and upon compliance with the provisions of subdivisions 1 and 2 with respect to the area affected so far as applicable.

Subd. 4. A district may be dissolved upon a petition to the commission stating the grounds for dissolution as hereinafter provided, signed by an authorized officer or officers of the district pursuant to a resolution of the board, and containing a proposal for distribution of the remaining funds of the district, if any, among the related governmental subdivisions. Except as otherwise provided, a proceeding for dissolution shall be governed by the provisions now or hereafter in force relating to proceedings for the creation of districts, so far as applicable. If the commission determines that the conditions requisite for the creation of the district no longer exist therein, that all indebtedness of the district has been paid, and that all property of the district except funds has been disposed of, it may make an order dissolving the district and directing the distribution of its remaining funds, if any, among the related governmental subdivisions on such basis as the commission determines to be just and equitable, to be specified in the order. Certified copies of the order for dissolution shall be transmitted and filed as provided for an order creating a district. The secretary of the commission shall also transmit a certified copy of the order to the treasurer of the district, who shall thereupon distribute the remaining funds of the district as directed by the order, and shall be responsible for such funds until so distributed.

Sec. 8. (PETITIONERS TO PAY EXPENSES.) Expenses of the preparation and submission of petitions in proceedings under sections 5 to 7 shall be paid by the petitioners.

Expenses of hearings therein shall be paid out of any available funds appropriated for the commission.

Sec. 9. (BOARD OF MANAGERS OF DISTRICT.) Subdivision 1. The governing body of each district shall be a board of managers of five members, who shall be voters residing in the district, and who may but need not be officers, members of governing bodies, or employees of the related governmental subdivisions, except that where there are more than five territorial units in a district there shall be one board member for each unit.

Subd. 2. The terms of the first board members elected after creation of a district shall be so arranged and determined by the electing body as to expire on the first business day in January as follows:

(1) The terms of two members in the second calendar year after the year in which they were elected;

(2) The terms of two other members in the third calendar year after the year in which they were elected;

(3) The term of the remaining member in the fourth calendar year after the year in which he was elected. In case a board has more than five members the additional members shall be assigned to the groups hereinbefore provided for so as to equalize such groups as far as practicable. Thereafter board members shall be elected successively for regular terms beginning on expiration of the preceding

terms and expiring on the first business day in January of the third calendar year thereafter. Each board member shall serve until his successor is elected and has qualified.

Subd. 3. In a district having only one territorial unit all the members of the board shall be elected by the related governing body. In a district having more than one territorial unit the members of the board shall be elected by the members of the related governing bodies in joint session except as otherwise provided. The electing bodies concerned shall meet and elect the first board members of a new district as soon as practicable after creation of the district, and shall meet and elect board members for succeeding regular terms as soon as practicable after November 1 next preceding the beginning of the terms to be filled, respectively.

Subd. 4. Upon the creation of a district having more than one territorial unit the commission, on the basis of convenience for joint meeting purposes, shall designate one of the related governing bodies as the central related governing body in the order creating the district or in a subsequent special order, of which the secretary of the commission shall notify the clerks or recorders of all the related governing bodies. Upon receipt of such notification, the clerk or recorder of the central related governing body shall immediately transmit the same to the presiding officer of such body. Such officer shall thereupon call a joint meeting of the members of all the related governing bodies to elect board members, to be held at such time as he shall fix at the regular meeting place of his governing body or at such other place in the district as he shall determine. At least ten days notice of the meeting shall be given by mail by the clerk or recorder of such body to the clerks or recorders of all the other related governing bodies, who shall immediately transmit such notice to all the members of such bodies, respectively. Subsequent joint meetings to elect board members for regular terms shall be called and held in like manner. The presiding officer and the clerk or recorder of the central related governing body shall act respectively as chairman and secretary of the joint electing body at any meeting thereof, but in case of the absence or disability of either of them such body may elect a temporary substitute. A majority of the members of each related governing body shall be required for a quorum at any meeting of the joint electing body.

Subd. 5. Nominations for board members may be made by petitions, each signed by ten or more voters residing and owning land in the district, filed with the clerk, recorder, or secretary of the electing body before the election meeting. No person shall sign more than one petition. The electing body shall give due consideration to all such nominations but shall not be limited thereto.

Subd. 6. In the case of an electing body consisting of a single related governing body, a majority vote of all the members shall be required for an election. In the case of a joint electing body, a majority vote of the members present shall be required for an election. In case of lack of a quorum or failure to elect, a meeting of an electing body may be adjourned to a stated time and place without further notice.

Subd. 7. In any district having more than one territorial unit the related governing bodies, instead of meeting in joint session, may elect a board member by resolutions adopted by all of them separately, concurring in the election of the same person. A majority vote of all the members of each related governing body shall be required for the adoption of any such resolution. The clerks or recorders of the other related governing bodies shall transmit certified copies of such resolutions to the clerk or recorder of the central related governing body. Upon receipt of concurring resolutions from all the related governing bodies, the presiding officer and clerk or recorder of the central related governing body shall certify the results and furnish certificates of election as provided for a joint meeting.

Subd. 8. Any vacancy in the membership of a board shall be filled for the unexpired term in like manner as provided for the regular election of board members.

Subd. 9. The presiding and recording officers of the electing body shall certify the results of each election to the secretary of the commission, to the county auditor of each county wherein any part of the district is situated, and to the clerk or recorder of each related governing body, and shall make and transmit to each board member elected a certificate of his election. Upon electing the first board members of a district, the presiding officer of the electing body shall designate one of them to serve as temporary chairman for the purposes of initial organization of the board, and the recording officer of the body shall include written notice thereof to all the board members with their certificates of election.

Sec. 10. (ORGANIZATION AND PROCEDURE OF BOARD.) Subdivision 1. As soon as practicable after the election of the first board members of a district they shall meet at the call of the temporary chairman to elect officers and take other appropriate action for organization and administration of the district. Each board shall hold a regular annual meeting at the call of the chairman or otherwise as it shall prescribe on or as soon as practicable after the first business day in January of each year, and such other regular and special meetings as it shall prescribe.

Subd. 2. The officers of each district shall be a chairman and a vice-chairman, who shall be members of the board, and a secretary and a treasurer, who may but need not be members of the board. The board of a new district at its initial meeting or as soon thereafter as practicable shall elect the officers to serve until the first business day in January next following. Thereafter the board shall elect the officers at each regular annual meeting for terms expiring on the first business day in January next following. Each officer shall serve until his successor is elected and has qualified.

Subd. 3. The board at its initial meeting or as soon thereafter as practicable shall provide for suitable places for board meetings and for offices of the district officers, and may change the same thereafter as it deems advisable. Such meeting place and offices may be the same as those of any related governing body, with the approval of such body. The secretary of the board shall notify the secretary of state, the secretary of the commission, the county auditor of each county wherein any part of the district is situated, and the clerk or recorder of each related governing body of the locations and post office addresses of such meeting place and offices and any changes therein.

Subd. 4. At any time before the proceeds of the first tax levy in a district become available the district board may prepare a budget comprising an estimate of the expenses of organizing and administering the district until such proceeds are available, with a proposal for apportionment of the estimated amount among the related governmental subdivisions, and may request the governing bodies thereof to advance funds in accordance with the proposal. Such governing bodies may authorize advancement of the requested amounts, or such part thereof as they respectively deem proper, from any funds available in their respective treasuries. The board shall include in its first tax levy after receipt of any such advancements a sufficient sum to cover the same and shall cause the same to be repaid, without interest, from the proceeds of taxes as soon as received.

Sec. 11. (STATUS AND POWERS OF DISTRICT.) Subdivision 1. Every district shall be a public corporation and a governmental subdivision of the state, and shall be deemed to be a municipality or municipal corporation for the purpose of obtaining federal or state grants or loans or otherwise complying with any provision of federal or state law or for any other purpose relating to the powers and purposes of the district for which such status is now or hereafter required by law.

Subd. 2. Every district shall have the powers and purposes prescribed by sections 4 to 23 and such others as may now or hereafter be prescribed by law. No express grant of power or enumeration of powers herein shall be deemed to limit the generality or scope of any grant of power.

Subd. 3. Except as otherwise provided, a power or duty vested in or imposed upon a district or any of its officers, agents, or employees shall not be deemed exclusive and shall not supersede or abridge any power or duty vested in or imposed upon any other agency of the state or any governmental subdivision thereof, but shall be supplementary thereto.

Subd. 4. All the powers of a district shall be exercised by its board of managers except so far as approval of any action by popular vote or by any other authority may be expressly required by law.

Subd. 5. A district may sue and be sued and may enter into any contract necessary or proper for the exercise of its powers or the accomplishment of its purposes.

Subd. 6. A district may acquire by purchase, gift, or condemnation or may lease or rent any real or personal property within or without the district which may be necessary for the exercise of its powers or the accomplishment of its purposes, may hold such property for such purposes, and may lease or rent out or sell or otherwise dispose of any such property so far as not needed for such purposes.

Subd. 7. A district may accept gifts, grants, or loans of money or other property from the United States, the state, or any person, corporation, or other entity for district purposes, may enter into any agreement required in connection therewith, and may hold, use, and dispose of such money or property in accordance with the terms of the gift, grant, loan, or agreement relating thereto.

Sec. 12. (SPECIFIC PURPOSES AND POWERS.) Subdivision 1. A district may construct, install, improve, maintain, and operate any system, works, or facilities within or without the district required to control and prevent pollution of any waters of the state within its territory.

Subd. 2. A district may construct, install, improve, maintain, and operate any system, works, or facilities within or without the district required to provide for, regulate, and control the disposal of sewage, industrial waste and other waste originating within its territory. The district may require any person upon whose premises there is any source of sewage, industrial waste, or other waste within the district to connect the same with the disposal system, works, or facilities of the district whenever reasonable opportunity therefor is provided.

Subd. 3. A district may construct, install, improve, maintain, and operate any system, works, or facilities within or without the district required to provide for, regulate, and control the disposal of garbage or refuse originating within the district, and may require any person upon whose premises any garbage or refuse is produced or accumulated to dispose thereof through the system, works, or facilities of the district whenever reasonable opportunity therefor is provided.

Subd. 4. A district may procure supplies of water so far as necessary for any purpose under subdivisions 1, 2, and 3, and may construct, install, improve, maintain, and operate any sistem, works, or facilities required therefor within or without the district.

Sec. 13. (DISTRICT PROJECTS AND FACILITIES.) Subdivision 1. For the purpose of constructing, improving, maintaining, or operating any system, works, or facilities designed or used for any purpose under section 12, a district, its officers, agents, employees, and contractors may enter, occupy, excavate, and otherwise operate it, upon, under, through, or along any public highway, including a state trunk highway, or any street, park, or other public grounds so far as necessary for such work, with the approval of the governing body or other authority in charge of the public property affected and on such terms as may be agreed upon with such governing body or authority respecting interference with public use, restoration of previous conditions, compensation for damages, and other pertinent matters. If such an agreement cannot be reached after reasonable opportunity therefor, the district may acquire the necessary rights, easements, or other interests in such public property by condemnation, subject to all applicable provisions of law as in case of taking private property, upon condition that the court shall determine that there is paramount public necessity for such acquisition.

Subd. 2. A district may, upon such terms as may be agreed upon with the respective governing bodies or authorities concerned, provide for connecting with or using or may lease or acquire and take over any system, works, or facilities for any purpose under section 12 belonging to any other governmental subdivision or other public agency.

Subd. 3. A district may, upon such terms as may be agreed upon with the respective governing bodies or authorities concerned, authorize the use by any other governmental subdivision or other public agency of any system, works, or facilities of the district constructed for any purpose under section 12 so far as the capacity thereof is sufficient beyond the needs of the district. A district may extend any such system, works, or facilities and permit the use thereof by persons outside the district, so far as the capacity thereof is sufficient beyond the needs of the district, upon such terms as the board may prescribe.

Subd. 4. A district may be a party to a joint cooperative project, undertaking, or enterprise with any one or more other governmental subdivisions or other public agencies for any purpose under section 12 upon such terms as may be agreed upon between the governing bodies or authorities concerned. Without limiting the effect of the foregoing provision or any other provisions of sections 4 to 23, a district, with respect to any of said purposes, may act under and be subject to the provisions of Minnesota Statutes 1957, Section 471.59, as now in force or hereafter amended, or any other appropriate law now in force or hereafter enacted providing for joint or cooperative action between governmental subdivisions or other public agencies.

Sec. 14. (CONTROL OF SANITARY FACILITIES.) A district may regulate and control the construction, maintenance, and use of privies, cesspools, septic tanks, toilets, and other facilities and devices for the reception or disposal of human or animal excreta or other domestic wastes within its territory so far as necessary to prevent nuisances or pollution or to protect the public health, safety, and welfare, and may prohibit the use of any such facilities or devices not connected with a district disposal system, works, or facilities whenever reasonable opportunity for such connection is provided; provided, that the authority of a district under this section shall not extend or apply to the construction, maintenance, operation, or use by any person other than the district of any disposal system or part thereof within the district under and in accordance with a valid and existing permit heretofore or hereafter issued by the commission.

Sec. 15 (DISTRICT PROGRAMS, SURVEYS, AND STUDIES.) A district may develop general programs and particular projects within the scope of its powers and purposes, and may make all surveys, studies, and investigations necessary therefor.

Sec. 16. (GENERAL AND VILLAGE POWERS.) A district may do and perform all other acts and things necessary or proper for the effectuation of its powers and the accomplishment of its purposes. Without limiting the effect of the foregoing provision or any other provision of sections 4 to 23, a district, with respect to each and all of said powers and purposes, shall have like powers as are vested in villages with respect to any similar purposes, and the exercise of such powers by a district and all matters pertaining thereto shall be governed by the provisions of law relating to the exercise of similar powers by villages and matters pertaining thereto, so far as applicable, with like force and effect, except as otherwise provided.

Sec. 17. (ADVISORY COMMITTEE.) Subdivision 1. The board may appoint an advisory committee with such membership and duties as it may prescribe.

Sec. 18. (POWERS OF BOARD.) Subdivision 1. The board of managers of every district shall have charge and control of all funds, property, and affairs of the district. With respect thereto, the board shall have like powers and duties as are provided by law for a village council with respect to similar village matters, except as otherwise provided. Except as otherwise provided, the chairman, vice-chairman, secretary, and treasurer of the district shall have like powers and duties, respectively, as the major acting mayor, clerk, and treasurer of a village. Except as otherwise provided the exercise of the powers and the performance of the duties of the board and officers of the district and all other activities, transactions, and procedures of the district or any of its officers, agents, or employees, respectively, shall be governed by the provisions of law relating to similar matters in a village, so far as applicable, with like force and effect.

Subd. 2. The board may enact ordinances, prescribe regulations, adopt resolutions, and take other appropriate action relating to any matter within the powers and purposes of the district, and may do and perform all other acts and things necessary or proper for the effectuation of said powers and the accomplishment of said purposes. The board may provide that violation of any ordinance shall be a penal offense and may prescribe penalties therefor, not exceeding those prescribed by law for violation of village ordinances.

Subd. 3. Violations of district ordinances may be prosecuted before any court or magistrate of any related governmental subdivision having jurisdiction of misdemeanors, and every such court or magistrate shall have jurisdiction of such violations. Any constable or other peace officer of any such governmental subdivision may make arrests for such violations committed anywhere within the district in like manner and with like effect as for violations of village ordinances or for statutory misdemeanors.

All fines collected in such cases shall be dedospited in the treasury of the district.

Sec. 19. (TAX LEVIES, ASSESSMENTS, AND SERVICE CHARGES.) Subdivision 1. The board may levy taxes for any district purpose on all property taxable within the district, subject only to the limitation that the tax levy for any year for all purposes other than the payment of bonds and interest thereon and expenses incident thereto shall not exceed $10,000 or ten mills on the dollar of the assessed value of all the property taxable within the district, whichever is greater, provided that no taxes levied under this subdivision in any year shall exceed in amount $1.50 per capita of the population of the district according to the last state or federal census, if the amount proposed to be levied in excess of such amount, when added to the levy subject to the limitations of Minnesota Statutes, Section 275.10 or Section 275.11, of any of the municipalities within the district, would cause such municipal levy to exceed the limitations of such applicable section.

Subd. 2. In the case where a particular area within the district, but not the entire district, is benefited by a system, works, or facilities of the district, the board, after holding a public hearing as provided by law for levying assessments on benefited property, shall by ordinance establish such area as a taxing subdistrict, to be designated by number, and shall levy special taxes on all the taxable property therein, to be accounted for separately and used only for the purpose of paying the cost of construction, improvement, acquisition, maintenance, or operation of such system, works, or facilities, or paying the principal and interest on bonds issued to provide funds therefor and expense incident thereto. Such hearing may be held jointly with a hearing for the purpose of levying assessments on benefited property within the proposed taxing subdistrict.

Subd. 3. The board shall levy assessments on benefited property to provide funds for payment of the cost of construction, improvement, or acquisition of any system, works, or facilities designed or used for any district purpose, or for payment of the principal of and interest on any bonds issued therefor and expenses incident thereto.

Subd. 4. The board shall prescribe service, use, or rental charges for persons or premises connecting with or making use of any system, works, or facilities of the district, prescribe the method of payment and collection of such charges, and provide for the collection thereof for the district by any related governmental subdivision or other public agency on such terms as may be agreed upon with the governing body or other authority thereof.

Sec. 20. (BORROWING POWERS: BONDS.) Subdivision 1. The board may authorize the borrowing of money for any district purpose and provide for the repayment thereof, subject to Minnesota Statutes 1957, Chapter 475. The taxes initially levied by any district in accordance with Minnesota Statutes, Section 475.61 for the payment of its bonds, upon property within each municipality included in the district, shall be included in computing the limitations upon the levy of such municipality under Minnesota Statutes, Section 275.10 or Section 275.11, as the case may be. If the tax required by section 475.61 to be levied for any year of the term of a bond issue upon property within any municipality included in the district would, when added to the taxes levied by such municipality for all purposes in the year preceding such issue, exceed the limitations prescribed in section 275.10 or section 275.11, the bonds shall not be issued without the consent by resolution of the governing body of such municipality.

Subd. 2. The board may authorize the issuance of bonds or obligations of the district to provide funds for the construction, improvement, or acquisition of any system, works, or facilities for any district purpose, or for refunding any prior bonds or obligations issued for any such purpose, and may pledge the full faith and credit of the district or the proceeds of tax levies or assessments or service, use, or rental charges, or any combination thereof, to the payment of such bonds or obligations and interest thereon or expenses incident thereto. An election or vote of the people of the district shall be required to authorize the issuance of any such bonds or obligations. Except as otherwise provided in sections 4 to 23, the forms and procedures for issuing and selling bonds and provisions for payment thereof shall comply with the provisions of Minnesota Statutes 1957, Chapter 475, as now in force or hereafter amended.

Sec. 21. (FUNDS: DISTRICT TREASURY.) The proceeds of all tax levies, assessments, service, use, or rental charges, and other income of the district shall be deposited in the district treasury and shall be held and disposed of as the board may direct for district purposes, subject to any pledges or dedications made by the board for the use of particular funds for the payment of bonds or interest thereon or expenses incident thereto or for other specific purposes.

Sec. 22. (EFFECT OF DISTRICT ORDINANCES AND FACILITIES.) In any case where an ordinace is enacted or a regulation adopted by a district board relating to the same subject matter and applicable in the same area as an existing ordinance or regulation of a related governmental subdivision for the district, the district ordinance or regulation, to the extent of its application, shall supersede the ordinance or regulation of the related governmental subdivision. In any case where an area within a district is served for any district purpose by a system, works, or facilities of the district, no system, works, or facilities shall be constructed, maintained, or operated for the same purpose in the same area by any related governmental subdivision or other public agency except as approved by the district board.

Sec. 23. The provisions of this act shall not abridge or supersede any provision of Minnesota Statutes 1957, Sections 144.371 to 144.379, or any authority of the state water pollution control commission or the state board of health, but shall be subject and supplementary thereto. Districts and members of district boards shall be subject to the authority of the commission and shall have no power or authority to abate or control pollution which is permitted by and in accord with any classification of waters, standards of water quality, or permit established, fixed, or issued by the commission.

Reproduced by Minnesota Department of Health, January, 1962.

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EXHIBIT IV

STATE OF MINNESOTA

WATER POLLUTION CONTROL COMMISSION

AN ACT RELATING TO WATERCRAFT; PROVIDING FOR THE REGULATION OF MARINE TOILETS AND THE DISPOSITION OF WASTES FROM WATERCRAFT, (Minnesota Statutes 1961, Section 361.29, as amended by Chapter No. 313, Laws of Minnesota, 1963)

Section 1. (MARINE TOILETS.) Subdivision 1. (a) For the purposes of this section the term "watercraft" has the meaning given to it by Laws 1959, Chapter 592, Section 2, Subdivision 7, and acts amendatory thereof. (b) No person owning or operating a watercraft or other marine conveyance upon the waters of the state of Minnesota shall use, operate or permit the use or operation of any marine toilet or other similar device for the disposition of sewage or other wastes, unless the marine toilet is equipped with a treatment device of a type acceptable to the water pollution control commission of the state of Minnesota. No person shall discharge into the waters of this state, directly or indirectly from a wetercraft, any untreated sewage or other wastes, nor shall any container of untreated sewage or other wastes be placed, left, discharged, or caused to be placed, left or discharged in or near any waters of this state from a watercraft in such manner or quantity as to create a nuisance or health hazard or pollution of such waters, by any person or persons at any time whether or not the owner, operator, guest or occupant of a watercraft or other marine conveyance.

Subd. 2. The water pollution control commission shall upon request furnish a list of the types of treatment devices currently available and considered acceptable for the purposes of this section for use with such marine toilets. The commissioner of conservation shall furnish the sheriff of each county in the state of Minnesota with a list of such treatment facilities acceptable to the water pollution control commission of the state of Minnesota.

Subd. 3. On and after January 1, 1965, no watercraft or other marine conveyance upon the waters of the state of Minnesota shall be equipped with any marine toilet unless also equipped with a treatment device acceptable to the water pollution control commission of the state of Minnesota; provided, however, that this requirement shall not be applicable to watercraft exempt from licensing under Section 361.03, subdivision 12.

Subd. 4. Any treatment device designed for use with a marine toilet, if in good working condition and of a type acceptable to the water pollution control commission of the state of Minnesota, is presumed to comply with the requirements of this section.

Subd. 5. The installation or presence of a marine toilet in a watercraft shall be indicated by the owner upon application for licensing of the watercraft or marine conveyance, and no license for any such watercraft bearing a marine toilet shall be issued except upon certification by the owner of the installation of an acceptable treatment device for use with such marine toilet.

Subd. 6. A person who violates any provision of this section is guilty of a misdemeanor.

Sec. 2. Not withstanding the provisions of any other law to the contrary, Minnesota Statutes 1961, Section 361.29 does not take effect until January 1. 1965.

Reproduced by Minnesota Department of Health, June 1963

* * *

EXHIBIT V

H.F.No.1825
Chapter No.
882

AN ACT

REQUIRING THE BOARD OF TRUSTEES OF THE MINNEAPOLIS-ST. PAUL SANITARY DISTRICT TO ADOPT A COMPREHENSIVE PLAN FOR CONSTRUCTION AND FINANCING OF FACILITIES REQUIRED BY ENTIRE AREA SERVED OR TO BE SERVED BY SUCH DISTRICT

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. The board of trustees of the Minneapolis-St. Paul sanitary district shall adopt a comprehensive plan which shall include plans prepared and approved by the governing bodies of Minneapolis and St. Paul for the collection, treatment, and disposal of sewage for the entire area likely to be served by the sewage treatment facilities of such district. The comprehensive plan shall include a plan of facilities required to serve the area, the proposed schedule of construction, the estimate of the total cost of the construction. The cities providing the service shall propose a plan to finance the construction and the proposed method of dividing the operating and construction costs among the towns and municipalities affected, including the formula to be used in determining the cost to each affected town and municipality. The comprehensive plan need not include plans for sewer facilities to be constructed and used exclusively by one municipality within the area, but shall include plans for all other necessary sewerage facilities and appurtenances. The plan may be modified by the board of trustees from time to time. The cost of preparing such comprehensive plan shall be apportioned to the users of the system regardless of location.

Sec. 2. On or before October 1, 1964, the proposed comprehensive plan shall be submitted to the water pollution control commission unless an extension of time is granted by the water pollution control commission. The water pollution control commission shall hold a public hearing on the proposed comprehensive plan, including the cities' proposed finance plans in accordance with the provisions of Minnesota Statutes 1961, Sections 115.03 to 115.05 at which affected towns, municipalities and persons may submit their views with respect to such plans.

On or before January 2, 1965, the water pollution control commission shall issue a written report approving or rejecting the proposed comprehensive plan or recommending modification thereof. In the report, the water pollution control commission shall state its reasons for approving, rejecting or recommending modifications in the plan. If the water pollution control commission either rejects the plan or recommends modification thereof, the board of trustees of the Minneapolis-St. Paul sanitary district shall modify and resubmit the proposed comprehensive plan to the water pollution control commission within such time as the water pollution control commission may require.

Sec. 3. The board of trustees of the Minneapolis-St. Paul sanitary district shall submit a copy of its proposed comprehensive plan, as defined in section 1 of this act, to the Twin Cities metropolitan planning commission on the same date such plan is submitted to the water pollution control commission.

Sec. 4. Nothing in this act shall be interpreted as imposing upon the Minneapolis-St. Paul sanitary district the responsibility for financing sewage disposal outside the limits of its present boundaries.

Sec. 5. Nothing in this act shall deter or abrogate negotiations between municipalities relating to sewage disposal facilities already undertaken or stop new negotiations between municipalities relating to sewage disposal facilities during the preparation of the plan to be adopted by the Minneapolis-St. Paul sanitary district or otherwise affect planning and construction as is being or may be accomplished by any municipality or other authority.

Sec. 6. This act shall become effective when approved by a resolution adopted by a majority of the members of the board of trustees of the Minneapolis-St. Paul sanitary district and upon compliance with Minnesota Statutes, Section 645.021.

* * *

EXHIBIT VI

JOINT RESOLUTION
MINNESOTA WATER POLLUTION CONTROL COMMISSION
AND
WISCONSIN COMMITTEE ON WATER POLLUTION

WHEREAS, the Mississippi River is an interstate stream bounding the States of Minnesota and Wisconsin and pollution thereof originating in one state may adversely affect public health and public rights in the adjoining state, thus creating problems of common interest and requiring correction by said states; and

WHEREAS, sewage and industrial wastes now discharged into the river and its tributaries does or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish or other aquatic life; and

WHEREAS, protection of public health and preservation of public rights demand that said waters shall be made suitable for all normal legitimate uses; now, therefore, be it

RESOLVED, that the Minnesota Water Pollution Control Commission and Wisconsin Committee on Water Pollution, each does hereby agree to require the correction of existing and prevention of additional pollution within the boundaries of its state to the end that said waters may be maintained or rendered suitable for all purposes heretofore defined and that in the attaining of these objectives the guiding policy shall be the requirement that facilities for treatment of sewage and for industrial wastes shall provide at least effective sedimentation or equivalent, substantially complete removal of floating solids or liquids, and reduction of toxic materials to less than lethal limits for aquatic life, with the understanding that additional or special type treatment be required in those areas where water uses so dictate; and be it further

RESOLVED, that adoption of this resolution by the water pollution control agency of each state shall be evidenced by the signature of its executive officer.

Dated this 11 day of August, 1953.

Minnesota Water Pollution Control Commission

/s/ A. J. Chesley, M.D., Secy.

Wisconsin Committee on Water Pollution

/s/ Theodore F. Wisniewski, Director

EXHIBIT VII

MINNESOTA RIVER

January 11, 1950 Commission Action

Dr. West moved that the following program of sewage works planning and construction be adopted as a general policy of the Commission, to be applied to those municipalities on the Minnesota River from above Mankato to its junction with the Mississippi River at Mendota:

1. Provision should be made for at least primary or tank treatment and chlorination for the municipal sewage and equivalent treatment for industrial wastes.
2. Installation of secondary or further treatment facilities should be made as rapidly as possible thereafter in order to meet local requirements for the abatement of sewage pollution.

Motion seconded by Mr. Scott. Carried.

WPC #600

* * *

EXHIBIT VIII

STATE OF MINNESOTA

MINNESOTA WATER POLLUTION CONTROL COMMISSION

POLICY REGARDING THE MINNESOTA RIVER AND MINOR TRIBUTARIES OF THE MISSISSIPPI RIVER IN THE TWIN CITIES METROPOLITAN AREA

M made by Mr. D. Wilson, S by Dr. Barr, and C, that the Minneapolis-St. Paul Sanitary District be informed of the following:

That creeks tributary to those zones of the Mississippi River which have been classified and where standards have been adopted by the Commission are governed by such standards. With respect to the Minnesota River, pending the classification and adoption of standards for the lower section of the river, it is the present attitude of the Commission, though not adopted as a binding commitment, that it will not issue permits for permanent treatment facilities with discharge to the river below the City of Shakopee.

July 25, 1963 Commission action

* * *

EXHIBIT IX

MINNESOTA WATER POLLUTION CONTROL COMMISSION

ST. CROIX RIVER

STATEMENT OF POLICY

Present and future uses of the St. Croix River and the necessity for preservation of this river were discussed.

M. made by Dr. Barr, S by Mr. D. Wilson, and C, that the following be adopted as a general policy of the Commission to be applied to the municipalities on the St. Croix River:

1. Provision should be made for both primary and secondary treatment, with chlorination, for all new sanitary sewage discharges. Equivalent treatment should be provided for industrial wastes.
2. Where a lesser degree of treatment is now provided, additional treatment facilities should be constructed as rapidly as is feasible.

April 18, 1963 Commission action

* * *

EXHIBIT X

STATE OF MINNESOTA

WATER POLLUTION CONTROL COMMISSION

Statement of Policy

on

Stream Flow Augmentation

Flow regulation may have a marked effect upon low flows and must, therefore, be given due consideration by the Commission in adoption of stream classifications, standards, degree of treatment requirements for control of sewage and industrial wastes, and other matters relating to control of pollution. The establishment of a regulated minimum discharge may be of vital economic importance to a number of municipalities and industries, and particularly those in the Twin Cities Metropolitan Area.

It is the sense of the Commission that allowance should not be made in the design of treatment works for possible low flow augmentation which may be provided in the future unless such flow augmentation or minimum flow to be provided is dependable under applicable laws and regulations.

The Commission believes that flow augmentation should not be used at any time as a substitute for operation of sewage or industrial waste treatment works at maximum capability, or for other methods of controlling wastes at the source, but should, instead, be a supplement to the best operation of such treatment works in order to provide higher water quality than could otherwise be obtained. Low flow augmentation may, however, become an economic necessity for avoidance of gross pollution conditions during critical periods in the densely populated or highly industrialized areas of the state, as the maximum degree of treatment of which conventional treatment works are capable is approached in the future.

Adopted by the Commission on December 21, 1962.

* * *

EXHIBIT XI

STATE OF MINNESOTA
WATER POLLUTION CONTROL COMMISSION
RESOLUTION ON CLASSIFICATION OF THE MISSISSIPPI RIVER AND TRIBUTARIES BETWEEN THE RUM RIVER AND THE ST. CROIX RIVER AND ESTABLISHMENT OF STANDARDS THEREFOR

Be it resolved by the Water Pollution Control Commission of the State of Minnesota as hereinafter set forth, to-wit:

From the chairman's report and other files and records of the Commission it appeared and the Commission finds that pursuant to authorization by the Commission and upon due notice given as provided by law, a public hearing was held by the Commission, concurrently with the State Board of Health, on the 28th day of May, 1962, at 10:00 a.m. in the State Office Building in the City of St. Paul, Ramsey County, Minnesota, for the purpose of investigating, considering and acting upon the classification of that portion of the Mississippi River and its tributaries between the mouth of the Rum River and the St. Croix River, the establishment of standards therefor, and the adoption of regulations relating thereto.

The hearing was conducted and presided over by M. M. Hargraves, Chairman of the Commission, at all sessions thereof. Other members of the Commission including G. C. Scott, Vice Chairman; R. N. Barr, Secretary; J. G. Flint, Clarence Prout, R. C. Tuveson, and D. A. Wilson, respectively, were present at various sessions of the hearing and participated therein. The State Board of Health was represented in conducting its concurrent hearing by H. M. Bosch, Vice President; R. N. Barr, Secretary and Executive Officer, and Katharine Densford Dreves, members of said Board.

Chester S. Wilson, Special Assistant Attorney General, appeared as counsel for the Commission, which was also represented by Lyle H. Smith, Executive Engineer. Jack L. Chestnut, Special Assistant Attorney General, appeared as counsel for the State Board of Health.

Interested parties appeared as follows: The Minneapolis-St. Paul Sanitary District by its attorney D. D. Wozniak; the North Suburban Sanitary Sewer District by its attorney, Arvid N. Falk; the City of St. Paul by its attorney, Donald L. Lais; the City of South St. Paul by its attorney, Roger Miller; and the Northern States Power Company by its attorney, A. R. Renquist.

Representatives of the United States Public Health Service, the U. S. Corps of Engineers, the

U. S. Geological Survey, the Wisconsin Committee on Water Pollution, the Minnesota Department of Health, the Minnesota Department of Conservation, the Port Authority of St. Paul, and various municipalities, counties, towns, industries, and organizations, also a number of private individuals attended the hearing, and some of them presented evidence or submitted statements for the consideration of the Commission.

Said hearing was continued, through successive adjournments, on June 12, 1962, at the same place, and on June 13, July 19 and 20, and September 20, 21, and 22, 1962, in the Veterans Service Building in said City of St. Paul. Presentation of evidence was closed on September 22 and the hearing was adjourned, subject to additional time granted for the submission of briefs and final arguments by interested parties.

At a meeting of the Commission on October 25, 1962, the Chairman submitted his report of said hearing, together with the transcript of the evidence given and other proceedings had thereat, the exhibits and statements received thereat, and the briefs and arguments thereafter submitted by interested parties.

Thereupon, after due consideration thereof, the Commission makes the following findings of fact:

FINDINGS OF FACT

ZONES OF THE RIVER

The portion of the Mississippi River in the State of Minnesota involved in this hearing extends from the mouth of the Rum River to the mouth of the St. Croix River and is divided into three zones as hereinafter set forth.

Zone 1 extends from the mouth of the Rum River downstream to the upper lock and dam at St. Anthony Falls in the City of Minneapolis, being approximately the northeasterly extension of Fifth Avenue South in said city.

Zone 2 extends from the lower end of Zone 1 as above described to the outfall of the existing Minneapolis-St. Paul Sanitary District sewage treatment plant in the City of St. Paul, being at approximately the eastward extension of Baker Street East in said City of St. Paul.

Zone 3 extends from the lower end of Zone 2 as hereinbefore described to the mouth of the St. Croix River.

DISTANCES BETWEEN SIGNIFICANT POINTS

The approximate distances between significant points in said zones of the river, measured approximately along the center of the main channel, beginning at the head of Zone 1 and going downstream, are as hereinafter set forth.

Zone 1

From the mouth of the Rum River in the City of

Anoka to the Coon Rapids Dam, 5.2 miles;

From said dam to the intake of the municipal water supply system for the City of St. Paul, 3.2 miles;

From said St. Paul intake to the upper intake of the municipal water supply system of the City of Minneapolis, designated as No. 5, 4.4 miles.

From said last described intake to the emergency intake of said Minneapolis system designated as No. 4, 3,450 feet or 0.6 miles;

From said last described intake to the Camden Bridge, 650 feet or 0.1 miles;

From said Camden Bridge to the Soo Line Bridge, 1,250 feet or 0.2 miles;

From said Soo Line Bridge to the Riverside plant of the Northern States Power Co., 4,630 feet or 0.9 miles;

From said plant to the upper lock and dam at St. Anthony Falls, 14,970 feet or 2.8 miles;

Total length of Zone 1, 17.4 miles.

Zone 2

From said upper lock and dam to the lower lock and dam at St. Anthony Falls, 2,700 feet or 0.5 miles;

From said lower lock and dam to the Fort Dam, 5.7 miles;

From said Ford Dam to the upper outlet of the Minnesota River, 2.6 miles;

From said river outlet to the outfall of the Minneapolis-St. Paul Sanitary District sewage treatment plant, 8.8 miles;

Total length of Zone 2, 17.6 miles.

Zone 3

From said outfall of the Minneapolis-St. Paul Sanitary District sewage treatment plant to the outfall of the south St. Paul sewage treatment plant, 3.5 miles.

From said South St. Paul outfall to the Hastings Dam, 17.2 miles;

From said Hastings Dam to the mouth of the St. Croix River, 4.0 miles;

Total length of Zone 3, 24.7 miles.

FLOW CHARACTERISTICS

The principal characteristics of the flow of said zones of the Mississippi River are as hereinafter set forth.

Zone 1

Flow data for Zone 1 are based on observations made at a gauging station maintained by the U. S. Geological Survey 1½ miles downstream from the Coon Rapids Dam since 1931.

The average flow during the period from 1931 to 1959 was 6,903 cubic feet per second (abbreviated c.f.s.)

The lowest flow observed at any instant of time was 586 c.f.s. on September 13, 1934.

The lowest daily average flow (for a period of 24 hours) was 602 c.f.s. on October 10, 1934. On the basis of the entire period of record it has been determined that a flow of not more than 900 c.f.s. may be expected to continue as long as one month at a time, and that a flow of not more than 800 c.f.s. may be expected to continue as long as 16 days at a time.

Zone 2

Flow data for Zone 2 are based on observations made at a gauging station maintained by the U. S. Geological Survey near the Robert Street Bridge in the City of St. Paul, as recorded from 1894-1897 and from 1900 to 1959. The flow at this point is considerably greater than the flow in Zone 1 by reason of the addition of the flow of the Minnesota River. There are also some smaller tributaries, but they do not add substantially to the flow in the main river.

The lowest daily average flow for Zone 2 was 632 c.f.s. at about the same time in 1934 as the lowest daily average flow in Zone 1.

The average flow in Zone 2 for the entire period of record was 9,832 c.f.s.

On the basis of these records, it has been determined that a flow of not more than 1,200 c.f.s. may be expected to continue as long as one month at a time and that a flow of not more than 1,000 c.f.s. may be expected to continue as long as 16 days at a time.

Zone 3

No gauging station has been maintained in Zone 3. Since no substantial tributaries enter the river between the Robert Street gauging station in Zone 2 and the upper outlet of the Vermilion River below the Hastings Dam near the lower end of Zone 3, the natural flow through the main portion of Zone 3 would be approximately the same as in Zone 2. This natural flow in Zone 3 is augmented by the discharge from the Minneapolis-St. Paul Sanitary District sewage treatment plant at the upper end of Zone 3, which averages 250 c.f.s., so that the total flow in the main portion of Zone 3 averages approximately 250 c.f.s. more than the flow in Zone 2.

TRIBUTARIES

Tributaries in the zones of the Mississippi River herein involved are as follows, listed in order from upstream down.

Zone 1

Elm Creek, entering from the right (facing downstream) in the Village of Champlin about 0.2 miles below the mouth of the Rum River at Anoka;

Coon creek, entering from the left about 1 mile below the Coon Rapids Dam;

Rice Creek, entering from the left about 0.8 mile below the St. Paul water intake.

Shingle Creek, entering from the right about 0.7 mile below the Minneapolis water intake No. 5.

Bassett's Creek, entering from the right about 1.0 mile above the upper lock and dam at St. Anthony Falls.

Zone 2

Minnehaha Creek, entering from the right about 0.3 mile below the Ford Dam;

Minnesota River (upper outlet) entering from the right about 2.6 miles below the Ford Dam; (lower outlet), entering from the right about 4.0 miles below the Ford Dam.

Zone 3

Vermilion River, upper outlet, entering from the right about 2 miles below the Hastings Dam and about 2 miles above the lower end of Zone 3 at the mouth of the Croix River.

Except for the Minnesota River, none of the above named tributaries has a sufficient sustained flow to affect substantially the volume of flow in the main river.

USES OF THE RIVER

The principal present and potential future uses of the Mississippi River in the zones herein involved are as hereinafter set forth.

Zone 1

The principal use of the river in Zone 1 now and in the foreseeable future will be as the main source of water supply for most of the population and many industries of the Twin Cities Metropolitan area, including the cities of Minneapolis and St. Paul and many of their suburbs.

The major part of the municipal water supply of the City of St. Paul and connecting suburbs is taken from the river, augmented by such additional water as may enter from local sources through the lakes and channels of the St. Paul municipal system.

The entire municipal water supply of the City of Minneapolis is taken from the river, as is most of the water supply of suburbs which have contracted with Minneapolis.

The present average use of river water for these municipal water supplies is 150 c.f.s. It is estimated that by 1980 this use will increase to 310 c.f.s., with a maximum use during periods of high demand of nearly 620 c.f.s. These demands will increase as the population of the area increases, and may in the foreseeable future equal or exceed the entire flow of the river at times of extreme low flow.

There is some use of the river water in Zone 1 for industrial purposes, but no substantial amount of water is withdrawn from the river and consumed for such purposes.

There is substantial use of the river in Zone 1 for pleasure boating, fishing, and related recreational activities. The river in this zone supports a fair population of game fish such as small mouth bass, blue gills, and walleyed pike.

Above the industrial sections of the City of Minneapolis the shores of the river in Zone 1 have substantial scenic and esthetic values, and provide suitable sites for summer homes or permanent residences and for public parks or other recreational purposes.

Some of the tributaries entering the river in Zone 1 have similar values and possible uses for residential or recreational purposes.

There is no commercial navigation in Zone 1 at present. The St. Anthony Falls lock and dam project now under construction by the Federal government is expected to be completed in 1963. Thereupon Zone 1 will be open to commercial navigation above the dam up to the head of the navigation channel at the Soo Line Bridge. Such use will be made principally by small tow boats propelling detached barges through the locks and into the upper harbor, but not by large river tow boats or barge combinations.

The use of the locks after completion will also be open to pleasure boats without charge, resulting in a substantial increase in pleasure boating and related activities in Zone 1.

After the government locks go into operation in 1963, a maximum flow of 350 c.f.s. will be required for operation when necessary for passage of watercraft. Such use will not be continuous. The lock gates will be closed, with no water passing through, between lockages.

Said requirement for operation of the locks in addition to the aforesaid requirement for municipal water supplies may in the foreseeable future exceed the total flow of the river at low stages. How the available flow will be apportioned among such uses in that event has not been determined under applicable laws or regulations.

The water in the lower portion of Zone 1, to the extent hereinafter set forth, is controlled by the main upper dam at St. Anthony Falls, maintained by the Northern States Power Company for the production of hydro-electric power at two plants connected with said dam. Further use of said water, after it passes said dam, is made by said Company for hydro-electric power production at a plant connected with the lower dam at St. Anthony Falls in Zone 2.

Said upper dam is equipped with flashbroads to raise the top of the dam 2.4 feet above the fixed crest. Said flashboards may be lowered to discharge water from the pool above said dam when necessary under emergency conditions.

Under ordinary conditions the level of the water in the pool above said dam is maintained as close as practicable to the top of the flashboards in order to have as high a head of water as possible for hydro-electric power production. At times the water in the pool is drawn below the top of the flashboards when necessary for hydro-electric power production, operation of the locks, or other reasons.

The slack water pool, wherein the flow of the water is more or less affected and checked by said upper dam, extends under ordinary flow conditions from said dam up river to a point near the 42nd Avenue (Camden) Bridge.

The power plants use whatever water is available from small amounts up to a maximum flow of about 4,500 c.f.s. Any flow in excess of that amount, so far as not passed through the government locks, passes over the dams.

There have been times and may be further times when both power plants on the upper dam are shut down under emergency conditions and when no water goes through or over the upper dam except a small amount of leakage through the dam. Such leakage has not been precisely measured, but is estimated to be less than the minimum average flow of 602 c.f.s. In case both power plants were closed and the lock gates were also closed at a time when the pool level was below the top of the flashboards, the movement of water in the pool above the dam would be checked, except for the leekage through the dam and except for water entering the pool from above, until the water rose to the top of the flashboards and passed over the dam.

Zone 2

The river banks in the upper part of Zone 2, passing through the central business and industrial area of the City of Minneapolis, and in the lower part of said zone, passing through the central business and industrial area of the City of St. Paul, are mostly occupied by commercial and industrial establishments, boat landing facilities, and other artificial developments. Between these areas, the river banks in said zone are bordered by public parkways or other public grounds. The river is accessible to the public at various points through Zone 2.

Zone 2 is extensively used for commercial navigation up as far as the present Minneapolis Barge terminal, and such use is expected to increase after the government locks at St. Anthony Falls go into operation in 1963.

Zone 2 is used for considerable pleasure boating and some related recreational activities. Such use is expected to increase after the government looks at St. Anthony Falls go into operation in 1963.

The waters of Zone 2 contain some fish and support some fishing, but the fish are mostly of less desirable species and sometimes are not edible.

The water in Zone 2 is not now suitable as a source of drinking water or for bathing, swimming, or other activities involving close or prolonged contact with the water, or for high-quality industrial process water. It is suitable for general industrial processing, cooling, condensing, and other purposes not requiring high-quality water.

Zone 3

The river banks in Zone 3 are occupied chiefly by industrial establishments and other artificial developments in and around the portions of the City of St. Paul included in said zone, the City of South St. Paul, the Villages of Newport, St. Paul Park, and the City of Hastings. Below the municipalities near St. Paul there are some industrial establishments, residences, and other artificial developments at various points along the river banks, with undeveloped areas between and down to Hastings.

Zone 3 is extensively used for commercial navigation and pleasure boating, including some local traffic and heavy traffic passing through said zone to points up or down stream. Such through traffic is expected to increase after the government locks at St. Anthony Falls go into operation in 1963.

By reason of the presence in the water of the effluents from the Minneapolis St. Paul Sanitary District sewage treatment plant and from the South St. Paul sewage treatment plant, together with waste effluents from industries or other sources, the water in Zone 3 is not suitable as a source of drinking water or high-quality industrial process water, for use by small watercraft for recreation or other purposes, or for bathing, swimming, fishing, or other activities involving close or prolonged contact with the water. It is suitable for some lower industrial uses and for disposal of treated sewage and waste effluents.

Zone 3 affords substantial opportunities for esthetic enjoyment of picturesque river scenery in the stretches not occupied by industries or other artificial developments.

WATER QUALITY AND POLLUTION CONDITIONS

The water quality and pollution conditions in the portions of the Mississippi River herein involved are as hereinafter set forth.

Zone 1

The effluent from the sewage treatment plant serving the City of Anoka and the Anoka State Hospital is discharged into the river just above the upper end of Zone 1. There is no other feasible means for disposal of such effluent. Notwithstanding the treatment to which it has been subjected, such effluent contains certain substances and organisms which lower the quality of the receiving waters and may cause hazards to public health therein.

Polluted waters are discharged into Zone 1 from various sources along the tributaries entering that zone, from sewers in the City of Minneapolis, and from other local sources along the banks of said zone. The total volume of such discharges has not been precisely measured, but is estimated to be small most of the time compared with the flow of the river. It is feasible, by the exercise of public authority, to prevent, abate, and control all such discharges so as to eliminate any material pollution or health hazards resulting therefrom in the waters of Zone 1.

It is feasible by the exercise of public authority to prevent, abate, and control all discharges of pollutants that might result in connection with commercial navigation or pleasure boating in Zone 1 so as to prevent any material health hazards or lowering of the water quality in said zone.

There is a serious problem of sewage disposal in the communities comprising the North Suburban Sanitary Sewer District situated north of the City of Minneapolis and mostly on the east side of Zone 1 of the Mississippi River. Most of said communities now have no sewers or have only partial systems. Pollution from overloaded and overflowing septic tanks and other local domestic sewage disposal facilities causes serious local nuisance conditions and public health hazards, and some of said pollution is occasionally carried into said Zone 1 of the river by run-off of surface water at times of heavy rainfall. There is urgent need for an adequate sewage and waste disposal system for the communities in said district in order to eliminate the conditions aforesaid.

The population of said district was 57,547 in 1960. It is expected to be approximately 80 thousand by the year 1980, and will increase further thereafter. It is estimated that the sewage from a population of 80,000 would amount to 8 million gallons per day.

There are alternative methods for disposal of the sewage from said district.

One alternative method, hereinafter called method 1, would be to dispose of said sewage through the existing sewage treatment plant of the Minneapolis-St. Paul Sanitary District, to which sewage from said North Suburban Sanitary Sewer District would be carried through a sewer main to be constructed connecting with intervening sewers of Minneapolis and said Minneapolis-St. Paul Sanitary District leading to said plant. Said method 1 would be feasible.

Another alternative method, hereinafter called method 2, would be to dispose of the sewage from said North Suburban Sanitary Sewer District through a sewage treatment plant to be constructed near said Zone 1 of the

Mississippi River, discharging the effluent therefrom into said zone of the river. Said method would be feasible. Said North Suburban Sanitary Sewer District has proposed to construct such a plant and to provide for the discharge of the effluent therefrom into said Zone of the River at or near the Soo Line Bridge.

Purification of the water drawn from the Mississippi River by said City of Minneapolis for its water supply is necessary in order to make the water potable and safe against transmission of water-borne diseases. Said City maintains and operates a main plant for such purification near said intake No. 5, and has other auxiliary facilities which can be used for such purification by drawing water from the river through said intake No. 4, in case said main plant or intake should be disabled.

To ensure maximum potability and safety of the water supply for said City of Minneapolis, it is desirable to maintain the raw water in the river at the points of intake so as to not exceed the recommended U. S. Public Health Service raw water requirements for group IV, as defined in Public Health Bulletin No. 296, Manual of Recommended Water Sanitation Practice, 1946, so that after Class IV treatment as specified in said manual the water will meet the requirements for drinking water as specified in U. S. Public Health Service Drinking Water Standards,

1962. Through the measures hereinbefore described for prevention, control, and abatement of pollution from existing sources, it is feasible to maintain the raw water in said Zone 1 of the Mississippi River where said Minneapolis water intakes are located so as to meet said requirements.

Effluent from any additional sewage treatment plant, even after the highest feasible degree of treatment, would contain substances and disease-producing organisms, which, if discharged so as to mix with water taken for water supply purposes, would lower the quality of such water, possibly below the aforesaid Public Health Service requirements, and would require a higher degree of purification thereof to make the water potable and safe against disease hazards. If raw (untreated) sewage were so discharged the disease hazards would be greater and the water purification requirements would be higher than in the case of discharge of treated sewage effluent.

Sewage treatment plants and water purification plants, such as the aforesaid sewage treatment plant proposed by said North Suburban Sanitary Sewer District and the Minneapolis water purification plant, involved the operation of complicated mechanical and chemical apparatus, facilities, and processes. Such plants are subject to partial or complete failure through negligence of operating personnel, accident, or other cause and are also subject to partial or complete destruction by explosion or other disaster. One such failure occurred through negligence of personnel in the Minneapolis water purification plant about the year 1935, resulting in a number of cases of typhoid fever transmitted by improperly treated water from the Mississippi River which passed through said plant.

In case of any such partial failure of a sewage treatment plant, such as the proposed North Suburban Sanitary Sewer District plant, the effluent therefrom would be discharged into the river without sufficient treatment and the effects of such effluent discharge in lowering the water quality and in causing disease hazards would be increased accordingly. In cases of complete failure or destruction of such plant or essential features thereof, all of the raw sewage from the area served thereby would have to be by-passed at the plant without treatment and discharged into the river, or if not so by-passed, would find its way into the river through any available outlets on the sewer system, until the plant was repaired or rebuilt and again placed in operation. It would be impossible in such cases to cut off the flow of sewage into the sewer sysetm from the residences, schools, places of business, and other establishments in the areas connected therewith. Such discharge of raw sewage into the river would lower the quality of the water and cause disease hazards therein to an extent much greater than that which would be caused by the discharge of treated effluent.

It is possible under conditions of low river flow and south or southeast winds, such as have occurred and may occur again, for sewage treatment plant effluent, raw sewage, or any other liquid discharged into the river at or near the location of the proposed North Suburban sewage treatment plant outfall or elsewhere in the pool above the upper St. Anthony Falls Dam to be carried through said pool up to either of the aforesaid Minneapolis water supply intakes. thereby causing lowering of the water quality and increase of disease hazards as aforesaid in the water drawn in through said intakes.

In order to reduce such lowering of water quality and disease hazards as far as possible, it is a principle and practice of good public health engineering not to permit any sewage, industrial wastes, or other wastes, or effluents from treatment thereof, to be discharged into any waters serving as the source of public water supply so that any such discharge could reach any public water supply intake if any other means for proper disposal of such sewage, wastes, or effluents is available.

Zone 2

Polluted waters are discharged into Zone 2 from various sources along the tributaries entering that zone, from existing sewers in the Cities of Minneapolis and St. Paul, and from other local sources. The total volume of such discharges generally is small compared with the flow of the Mississippi River. It is feasible by the exercise of public authority to control and reduce such discharges substantially so as to eliminate all major sources of pollution in said zone, but it is not feasible completely to prevent or eliminate all minor sources of pollution in the heavily built-up portions of the Cities of Minneapolis and St. Paul in said zone. Such pollution causes lowering of the water quality and increase of disease hazards in the river water in said zone which makes the same unsuitable as a source of supply for drinking water or for higher industrial uses or for other uses involving close or prolonged contact with the water.

In order to reduce the lowering of water quality and the disease hazards resulting from such pollution as far as possible and avoid adding thereto, it is a principle and practice of good public health engineering not to permit any sewage, industrial waste, or other wastes, or effluents from treatment thereof, to be discharged into any waters bordered by heavily populated portions of cities, such as those in Zone 2, if any other means of disposal of such sewage, wastes, or effluents is feasible. It is feasible to dispose of all such sewage, wastes, and effluents for which said Zone 2 of the river might be accessible by carrying the same to and treating the same at said Minneapolis-St. Paul Sanitary District sewage treatment plant, or other municipal sewage treatment plant, except for certain industrial wastes for which special treatment facilities would be required.

Zone 3

The effluents from the aforesaid Minneapolis-St. Paul Sanitary District sewage treatment plant, the South St. Paul sewage treatment plant, certain other small public sewage treatment plants, and the waste treatment facilities of a number of industries are now discharged into the Mississippi River in Zone 3. There is no other feasible means for disposal of such effluents. Said Sanitary District and South St. Paul plant are now heavily overloaded, causing serious pollution conditions in and below said zone of the river. Projects are in progress for expanding and improving said plants. It is feasible by the exercise of public authority to cause said plants to be expanded, improved, and maintained so as to provide adequate treatment for all sewage from the areas served thereby, and to require like maintenance and treatment for all other sources of sewage, industrial wastes, and other wastes for which there is no feasible means of disposal except by discharge of the treated effluents therefrom into the river in said Zone 3.

It is feasible by such means to maintain the quality of the water in said zone so as to be reasonably safe for navigation by commercial and pleasure craft passing through the same and for some lower industrial uses, but not for a source of drinking water, high-quality industrial process water, or any uses involving close or prolonged human contact with the water.

CONCLUSIONS AND ADOPTION OF STANDARDS

Upon the foregoing Findings of Fact, it is hereby determined that the classifications and standards hereinafter set forth are reasonable and appropriate for the waters of the zones of the Mississippi River and tributaries therein described in relation to the public use for which they are or may be put, and that said classifications and standards are necessary for the purposes of Minnesota Statutes, 1961, Sections 115.01 to 115.09, and said classifications and standards are hereby adopted for said purpose as follows:

EXHIBIT XII

Preliminary draft for long-range plan and program to be submitted to the 1965 session of the Legislature, issued herewith for advance study and discussion by all concerned. Comments and suggestions are invited by the Commission.

Office: State Department of Health Building
University Campus
Minneapolis, Minnesota 55440

STATE OF MINNESOTA

WATER POLLUTION CONTROL COMMISSION

LONG-RANGE WATER POLLUTION CONTROL PLAN AND PROGRAM

1963

FORWORD

The 1963 Minnesota Legislature, by Laws 1963, Chapter 874 (known as the Rosenmeier Act), adopted far-reaching measures which greatly strengthened the Water Pollution Control Laws of the State and provided the legal authority and machinery for a more effective state-wide water pollution control program under the direction of the State Water Pollution Control Commission, with the assistance of other agencies. The main aim of the Act was expressed in the following declaration in Section 4:

"Sec. 4. It is the policy of the state to provide for the prevention, control, and abatement of pollution of all waters of the state, so far as feasible and practical, in furtherance of conservation of such waters and protection of the public health and in furtherance of the development of the economic welfare of the state. The commission shall prepare a long-range plan and program for the effectuation of said policy, and shall make a report of progress thereon during each biennium to the legislature at the beginning of each regular session, with recommendations for action in furtherance of such program during the ensuing biennium. It is the purpose of this act to safeguard the waters of the state from pollution by: (a) preventing any new pollution; and (b) abating pollution existing when this act becomes effective, under a program consistent with the declaration of policy above stated."

The commission accordingly presents herewith a long-range Water Pollution Control Plan and Program for the state.

CHAPTER I

BACKGROUND

As a basis for the long-range water pollution control plan and program, it is essential to review the past record of progress in that field in Minnesota and to summarize the existing problems demanding future action.

Early History. Throughout the period of early settlement and development of the state, practically no attention was paid to control of pollution, and raw sewage and industrial wastes were freely discharged into the lakes and streams of the state wherever it was most convenient. Action on the problem was first prompted by recognition of the danger to the public health from contamination of water supplies. As early as 1885 the State Legislature passed an act to prevent pollution of rivers and other sources of water supply. At that time and for the next 60 years, the responsibility for dealing with pollution problems, so far as the Legislature did anything about them, was vested in the State Board of Health, except for pollution harmful to fish or other aquatic life, which was first in the province of the old Game and Fish Department, later the Department of Conservation.

1927 Legislation. In 1927 the Legislature passed an act which expressly charged the State Board of Health with the power and duty of administering and enforcing all laws relating to pollution of any waters of the state. However, the few affirmative statutory provisions against pollution in force at that time did little beyond providing limited protection for water supplies and fish, and afforded no substantial basis for dealing with the major problems of disposal of sewage and industrial waste. Adequate machinery for effective enforcement of the laws or for a constructive, large-scale water pollution control program was lacking. The 1927 act did nothing to remedy these deficiencies.

Progress Under State Board of Health. Nevertheless, the State Board of Health, though handicapped by limited authority and by still more limited resources, and beset by the burdens of many other problems in the field of public health, made considerable progress in its efforts to cope with the growing problems of pollution. The Board carried on a persistent campaign among municipalities, institutions, and industries in furtherance of better treatment and disposal of sewage and industrial waste. To aid in these efforts and secure compliance with proper standards in the design and operation of sewers and sewage treatment plants, the Board in 1917 adopted a regulation requiring the responsible municipalities or agencies to submit plans for such facilities to the Board before proceeding with construction. As far as their other duties permitted, the staff of the Board also made pollution surveys of nine major streams and numerous smaller streams and lakes, with reports on their conditions and recommendations for pollution abatement necessary for the protection of existing water uses. In effect these actions classified the waters, though largely on a local basis.

As a result of these efforts, although the Board had no authority to compel construction of sewage treatment plants, a number of such plants were built in different communities of the state during the 20-year period beginning about 1914. Most of these plants provided only primary treatment, but they did much to relieve pollution conditions in the affected waters.

Public Works Program in the 1930's. Sewage treatament plant construction got a substantial lift from the program of Federal grants for public works which were available during the depression of the 1930's before World War II. In this period many plants were built in various parts of the state. The surveys and reports previously made under the direction of the State Board of Health were invaluable to the communities concerned in planning their projects and securing Federal grants therefor.

Sewage Treatment Plants in the Large Cities. Among the plants built with Federal aid during the pre-war depression were those at the Twin Cities, South St. Paul, and Duluth. The progressive leadership exhibited by these cities in dealing with their large sources of pollution did much to induce other communities in the state to follow their example. It is especially noteworthy that in construction of these facilities the Twin Cities and South

St. Paul were many years ahead of all the other large metropolitan centers on the Mississippi, Ohio, and Missouri Rivers, and that Duluth was likewise many years ahead of its sister city of Superior, Wisconsin, across St. Louis Bay.

Need for New Legislation. Sewage treatment plant construction was necessarily suspended during World War II. Upon reviewing the situation, the State Board of Health then recognized that despite the previous progress made, much raw sewage and industrial waste was still pouring untreated into the waters of the state, that the pollution load was bound to increase with the growth of population and industry to be expected after the war, that besides public health other important interests--such as industry, agriculture, livestock, recreation, fish and wildlife, and others--were increasingly concerned with pollution problems, and that in order to deal with those problems effectively an extensive reorganization and expansion of the state's pollution control program would be necessary. A number of other states had already adopted comprehensive water pollution control laws providing for systematic constructive programs in that field.

The Water Pollution Control Act of 1945. Accordingly the Board sought and obtained the cooperation of the other state agencies most concerned--the Department of Conservation, the Department of Agriculture, Dairy and Food, and the State Livestock Sanitary Board--secured the assistance of the Attorney General in drawing a bill embracing the best features of the corresponding laws of other states, and submitted the bill to the 1945 Session of the Legislature. The bill was supported by leading members of the Legislature and by many conservation and civic organizations. It passed, with some amendments, as Laws 1945, Chapter 395, entitled the State Water Pollution Control Act (now Minnesota Statutes, Sections 115.01 to 115.09). Although subsequent experience has disclosed some shortcomings, it was regarded at the time as one of the best state water pollution control acts in the country, and it provided the legal authority for a greatly expanded water pollution control program in this state.

The new act created the Water Pollution Control Commission, which was first composed of the heads of the four state departments above mentioned and one member at large appointed by the Governor. In 1951 the act was amended to provide for three members at large instead of one, making a total membership of seven. The act as amended provides that in selecting the three members at large, the Governor, so far as practicable, shall appoint one who is interested in water pollution control from the standpoint of the general public, one who is experienced in municipal government, and one who is experienced in the field of industry.

This composite membership of the Commission has been helpful in overcoming opposition to the water pollution control program and securing the cooperation of the various groups and interests concerned.

Definition of Pollution. Recognizing that pollution affected a wide range of interests besides the public health, the Legislature included in the new act a broad definition of pollution as follows (now Minnesota Statutes Section 115.01, Subdivision 5):

> "Subd. 5. 'Pollution' means the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life."

Service Provisions. At the same time the Legislature appreciated that the most critical pollution problems were those affecting the public health, and that to a large extent the methods already in use under the State Board of Health for dealing with those problems (through field investigations, laboratory tests, studies, research, development and application of remedies, and enforcement of prescribed conditions) would be needed by the Commission in dealing with pollution affecting all the interests embrac in the above quoted definition. Hence, in order to avoid unnecessary duplication of work and facilities, the new act provided that the State Board of Health shall furnish the Commission with the services needed in the administration of the act, including the designation, with the approval of the Commission, of a qualified and experienced sanitary engineer to act as the Commission's executive engineer (Minnesota Statutes Section 114.38, Subdivision 2). This has proved to be a very workable, economical, and effective arrangement so far as the means therefor have been provided by the Legislature.

The specific administrative and technical functions performed by the staff and problems resulting from shortage of funds, staff, and facilities will be discussed later.

Legal Authority of the Water Pollution Control Commission. From the standpoint of legal authority, the most important provisions of the new act were those which gave the Commission the following powers:

(1) To issue orders for abatement of pollution;

(2) To require submission of plans for sewage or waste disposal systems;

(3) To issue, continue in effect, or deny, under conditions for the prevention of pollution, permits for the discharge of sewage,

> industrial waste, or other wastes, or for the installation or operation of sewage or waste disposal systems, and to revoke or modify such permits when necessary to prevent or abate pollution (Minnesota Statutes Section 115.03, Subdivision 1).

These were positive, constructive powers, much broader than those previously vested in the State Board of Health, which were largely prohibitory or negative in character.

Fortifying the specific powers thus conferred on the Commission, the new act also expressly prohibited the construction or operation of new disposal systems or the alteration or extension of existing disposal systems until plans had been submitted and permits therefor obtained from the Commission, unless waived (Minnesota Statutes Section 115.07, Subdivisions 1 and 3).

The new act further provided for the issuance of permits for disposal systems already in operation, subject to modification or revocation by the Commission in the same manner as other permits (Minnesota Statutes Section 115.07, Subdivision 2).

Under these provisions and others supplementary thereto, the Commission could compel abatement of existing pollution, require adequate treatment or control facilities for new discharges of sewage, industrial waste or other wastes, and require the extension or improvement of old or new sewage or waste disposal facilities when necessary to prevent or abate pollution as changing conditions might require from time to time.

Pollution Situation On Creation of the Water Pollution Control Commission in 1945. The major pollution problems faced by the Water Pollution Control Commission when it began its work in 1945 fell into two general categories with respect to their origin--municipal and industrial. However, there was considerable overlapping between these categories, because a majority of the industries of the state were situated within municipalities and discharged their wastes through municipal sewer systems. In some such cases the industrial waste load greatly exceeded the human sewage load--for example, the packing plant waste at South St. Paul.

At the same time there were a number of cases where industries situated both within and without municipalities discharged their waste into the receiving waters through separate outlets. Examples of such cases existing in 1945 and new cases which arose later included pulp and paper mills, oil refineries, iron ore mines and concentrators, slaughtering and meat packing plants, beet sugar plants, canneries, creameries and milk processing plants, chemical plants, and others of a special nature.

Municipal Sewage Treatment Situation in 1945. Because of war-time conditions, exact records of the status of municipal sewage treatment in 1945 are not available. The following table shows the situation at that time as projected from the nearest available data, reflecting previous progress made under the State Board of Health.

Municipal Sewage Disposal - 1945

	Number	%	Population
Total State Population (1940 Census)			2,702,300
Municipalities in the State*	749		1,787,653
Municipalities without Sewer Systems**	424		148,292
Municipalities with Sewer Systems	325		1,639,361
Municipalities having Sewer Systems without Treatment**	114		242,274
Municipalities having Sewer Systems with Treatment***	211		1,397,087
Percentage of Sewered Municipalities Having Sewage Treatment		65.0	
Percentage of Total Population of Sewered Municipalities Served by Sewage Treatment		85.2	

Out of 211 municipalities with treatment:

	Number	%
Adequate Sewage Treatment Plants	151	71.6
Old and Inadequate Sewage Treatment Plants	60	28.4

*From League of Minnesota Municipalities
**From 1950 Census data - adjusted to 1945
***From 1947 Census data - adjusted to 1945

Note: The 114 sewered municipalities without treatment included three of over 10,000 population (St. Cloud, Mankato, and Faribault), and nine others of over 5,000 population (Red Wing, Cloquet, Chisholm, Crookston, Stillwater, Little Falls, St. Peter, Hastings, and International Falls.)

The population percentage in the above table is higher than the numerical percentage because the three largest cities in the state, containing a large part of the total population, have sewage treatment plants.

Industrial Waste Treatment in 1945. No exact figures are available for the industrial waste treatment situation in 1945. In 1948, as shown by appendix A, there were approximately 784 industrial plants in the state discharging waste through separate outlets, of which 267, or about 34%, had some form of waste treatment or control. Because of the high rate of industrial activity during the war, it is safe to assume that there were almost if not quite as many industrial plants in operation in 1945 (the last year of the war) as in 1948. Also, because little progress was made with industrial waste treatment for some time after the war, it is equally safe to assume that the proportion of plants with waste treatment was about the same in 1945 as in 1948. It follows that a reasonable estimate for 1945 would be at least 750 industrial plants in the state, of which only about one-third had any form of waste treatment. Furthermore, most of the waste treatment then provided by industries generally was far short of complete. Very few, if any, industries in the state provided really adequate treatment for their waste at that time.

Summary of Pollution Conditions in 1945. On the whole, despite the previous progress made under the State Board of Health, an immense volume of raw or incompletely treated sewage and industrial waste was pouring into the waters of the state when the Water Pollution Control Commission was created in 1945. These discharges came from 114 sewered municipalities having no sewage treatment plants and at least 60 others having inadequate plants, and from practically all the 750 or more industrial plants in the state having separate outlets, making a total prospective work load for the Water Pollution Control Commission of over 900 separate cases, scattered throughout the state.

Municipal and industrial sewage or waste treatment plant construction was practically at a standstill at the close of the war. It is estimated that the cost of constructing the new municipal sewage treatment plants and remodeling or replacing the old and inadequate plants needed at that time would have been at least $35,000,000 for the existing discharges, without any allowance for inevitable future increases. Estimates of the cost of industrial waste treatment facilities needed in 1945 are not available, but it would have been a very substantial sum. It was the job of the new Commission to get at all these cases as fast as possible and see that the responsible municipalities and industries either provided adequate treatment or stopped the polluting discharges--truly a monumental task.

Action Program Under the Water Pollution Control Commission, 1945. When the members of the new Commission first took their seats around the table in 1945, they faced the task above outlined with broad powers on paper but very little means for carrying them out. The Water Pollution Control Act had passed so late in the 1945 session of the Legislature that there had been no time to secure any appropriations for the Commission's work. It was therefore impossible for the Commission at the outset to launch an aggressive, state wide pollution control program, with the aim of cleaning up all the contaminated water in the state in a hurry. It would have been futile for the Commission to threaten all polluters with immediate legal action, since no funds were available to employ either the legal or the technical services that would have been required for preparing for and carrying on such proceedings.

Under the circumstances, the best the Commission could do at the beginning was to make it known that under the new act it was the duty of all municipalities, industries and others who were responsible for disposal of sewage, industrial waste, or other wastes either to abate the discharges or to provide adequate treatment therefor as soon as was reasonably possible; also that no additional or new discharges of sewage or waste could be made without permits from the Commission under conditions providing for adequate treatment to prevent pollution.

Early Opposition to Commission. The early efforts of the Commission towards pollution abatement or control soon ran into stubborn opposition from a small group of cities and villages in the southern part of the state. The officials of these communities resented interference with what they regarded as a vested right to discharge their raw sewage into the streams of the state without restriction, as they had always done before. They declared their intention of resisting the Commission's authority, contesting the constitutionality of the Water Pollution Control Act, and seeking its repeal.

Favorable Factors. However, this opposition died down when leaders from other communities came to the support of the Commission, pointing out that no municipality or industry had any vested right to pollute the waters of the state. The fact that many municipalities, including the three largest cities in the state, had already built sewage treatment plants, helped swing public opinion behind the Commission's program.

Municipal and Industrial Representation. Another favorable circumstance was the fact that the municipal and industrial interests of the state had representatives on the Commission. This gave assurance that the problems of these groups would get fair consideration, and did much to overcome their opposition and secure their compliance with the requirements of the Commission for pollution abatement or control. Yet during the 18 years and more that have elapsed since the Commission was created, the municipal and industrial members have never once sought any special favors for the interests which they represented. On the contrary, they have repeatedly joined with the other members in imposing strict conditions for sewage or waste treatment on both municipalities and industries, and have been instrumental in securing the acceptance of such conditions.

Unity of Action. At this point it is noteworthy that although the Commission members have often differed in their opinions on various questions, there has never been a dissenting vote on any final decision of the Commission for action on a pollution control case. Despite the controversial nature of the subject matter, the Commission has consistently maintained a united front in dealing with these cases. This has gone far to strengthen the standing of the Commission among the municipalities and industries of the state.

Effect of Permit System. The permit system established by the Commission soon after its creation under the provisions of the act before cited proved to be one of the most effective tools for pollution control provided for by the act. It resulted in preventing all new discharges of sewage or industrial or other wastes of any substantial volume without proper treatment, because no such discharge could lawfully be made without a permit from the Commission, and the Commission has never issued such a permit without strict conditions for treatment adequate to protect the receiving waters against pollution.

The permit system also resulted in securing abatement of existing pollution in the case of many cities and villages that needed sewer extensions or other modifications of their sewage disposal systems. Under an opinion of the attorney general construing the applicable provision of the Water Pollution Control Act, it was unlawful for any municipality to let a contract or spend public funds for such work without submitting plans and obtaining a permit therefor from the Commission. The Commission adopted a policy of refusing to grant any such permit except upon condition that the applying municipality would proceed with due diligence with construction of a sewage treatment plant or other necessary facilities under a definite time schedule. In consequence many new residential, commercial, or industrial developments, and in some cases the construction of new schools or other public buildings, were held up until the municipal authorities had acted to provide for adequate sewage treatment plants. This brought about construction of such plants in a number of municipalities in the state.

Federal Grant Program. Construction of municipal sewage treatment plants in Minnesota and elsewhere has been greatly aided by the grant program initiated by Congress in 1956 and later expanded under the Federal Water Pollution Control Act (Public Law 660, Section 6; 33 U.S.C. 466 e). Under the original provisions a municipality could obtain a grant up to 30 per cent of the cost of the project or $250,000, whichever was smaller. Under the amendment adopted in 1961 the percentage limit of 30 per cent was retained but the money limit was increased to $600,000 for each project and more liberal provisions for joint projects were incorporated.

The total allotment of Federal grant money to each state is determined annually by the U. S. Public Health Service under a formula prescribed by the act. Certification of allotments to individual municipalities within the state is made by the State Water Pollution Control Commission, under regulations of the U. S. Public Health Service, according to a priority point system developed by the Commission, whereby the projects are rated on the basis of financial need, water pollution control need, effect on interstate waters, and other factors.

In order to qualify for a grant it is essential that the participating municipalities have complete plans made for the proposed facilities, approved by the Water Pollution Control Commission, also by the State Board of Health as to public health factors. As a result of past efforts of the Commission and the Board, as before described, Minnesota has always had more municipal sewage treatment projects ready and eligible for Federal grants than the available funds would cover. Hence this state has used its entire allotment of Federal grant money from the beginning up to date whereas in some other states the allotments have lapsed for lack of properly planned eligible projects.

Acceleration of Sewage Treatment Plant Construction By Federal Grants. There is no doubt that on a nation-wide scale the Federal grant program has greatly accelerated municipal sewage treatment plant construction as compared with the rate of progress which would have occurred without the grants (which was far short of what was needed to cope with the continually increasing pollution load). However, it is well known that in Minnesota, Wisconsin, and other progressive states where active state pollution control programs were already under way before the Federal grant program was started, many municipalities that were ready to build sewage treatment plants with their own funds delayed their projects in order to benefit from Federal grants. On the other hand, some of the less diligent municipalities in these states expedited their projects under the incentive offered by the Federal grants, whereas they would have delayed construction if they had not received the grants. On the whole, it is debatable whether the Federal grant program has resulted in any actual expansion or speeding up of the total volume of sewage treatment plant construction in Minnesota, Wisconsin, or other states that had active pollution control programs of their own.

Nevertheless, it is certain that the participating municipalities in Minnesota reaped very substantial financial benefits from the Federal grant program to a total of $7,708,800 for 114 projects in the seven years of operation of the program from 1956 to 1963. In addition thereto, these municipalities have spent or obligated themselves for an estimated total of about $21,870,000 from their own funds on these projects. These municipal expenditures included at least 70 per cent of the cost of sewage treatment plants plus the entire cost of connecting sewers and other facilities, since the Federal grants were limited to sewage treatment plant construction.

At the same time many other municipalities in the state which could not qualify for Federal grants or made no effort to obtain them have constructed sewage treatment plants with their own funds, as will appear in the table to follow on Municipal Sewage Disposal--July 1, 1963.

Special Federal Grants Under Accelerated Public

Works Act. Under the Accelerated Public Works Act passed by Congress in 1963, Federal grants have been available for construction of public works in economically depressed areas. The areas so designated in Minnesota are mostly in the northern part of the state, including the Iron Range, where there is acute economic distress from unemployment or other causes. Among other public works projects, 19 grants have been made for sewage treatment plants in Minnesota under this program amounting to a total of $693,198.

The Federal grants under this program have undoubtedly accelerated sewage treatment plant construction in the affected municipalities, since most of them were in poor financial condition, and few, if any, of them would have constructed sewage treatment plants at this time without Federal aid.

At any rate, all the municipalities which received grants under the Accelerated Public Works Program are small and the total volume of sewage treatment plant construction involved was only a small fraction of the total for the state. Hence the accelerating effect of these grants did not cut much figure in the progress of the entire pollution control program.

The designation of the depressed areas and the allotments of the grants under the Accelerated Public Works Program have been determined by Federal authorities, but the applications had to be processed and the plans and other related information reviewed by the staff of the State Water Pollution Control Commission, as in other cases, adding considerably to their work load.

Summary of Progress In Municipal Sewage Treatment Plant Construction Under the Commission From 1945 to 1963.

Although credit is due to Federal grants as before described for some acceleration of sewage treatment plant construction in Minnesota, this affected only a small part of the total volume of such construction in the state. Furthermore, much work on the part of the Commission and staff was required in order to make the Federal aid available.

On the whole, it is evident that the progress made in sewage treatment plant construction in Minnesota since 1945 was brought about almost entirely by the efforts of the Water Pollution Control Commission, with the cooperation of the State Board of Health.

Municipal Sewage Disposal Situation in 1963.

The following table is based on the sewage disposal Census Data report compiled by the Commission's staff for January 1, 1963, with necessary adjustments for subsequent work to July 1, 1963.

Municipal Sewage Disposal--
July 1, 1963

	Number	%	Population
Total state population (1960 Census)			3,413,864
Municipalities in the state	847		2,519,626
Municipalities without sewer systems	410		216,436
Municipalities with sewer systems	437		2,302,190
Municipalities having sewer systems without treatment	46		41,042
Municipalities having sewer systems with treatment (including 356 treatment plants plus 32 connected with Twin City plant and 3 connected with others)	391		2,261,148
Municipalities which have secondary treatment (including 278 treatment plants plus 5 municipalities connected with such plants at other places)	283		731,669
Percentage of sewered municipalities having sewage treatment		89.5	
Percentage of total population of sewered municipalities served by sewage treatment		98.3	

Out of 391 municipalities with treatment:

	Number	%
Adequate	294	75
Inadequate	97	25

(See further comments on adequacy below)

Note: The 46 sewered municipalities without treatment were all under 3,000 population and averaged less than 1,000 population. All the municipalities of over 5,000 population without treatment listed in the note to the preceding table for 1945, as well as all others of over 3,000 population, had built sewage treatment plants by 1963.

As in the 1945 table, the population percentage in the above 1963 table is higher than the numerical percentage because the three largest cities in the state, containing a large part of the total population, have sewage treatment plants.

Summary of Progress in Municipal Sewage Treatment, 1945 to 1963. On the basis of number of municipalities, a comparison of the 1945 table with the 1963 table indicates that during the intervening period of over 18 years very substantial progress was made in dealing with municipal sewage disposal problems in the state under the program carried on by the Water Pollution Control Commission with the cooperation of the State Board of Health. In 1945 there were 114 sewered municipalities without treatment, having a total population of 242,274 (including three places with over 10,000 population and nine others with over 5,000 population). In 1963 there were only 46 sewered municipalities without sewage treatment, having a total population of 41,042. All of these were small towns of less than 3,000 population, the average being less than 1,000. The cost of construction of sewage treatment plants in these 46 sewered municipalities now without treatment is estimated at about $6,000,000.

In all 252 sewage treatment projects had been constructed during the period from 1945 to 1963, including new plants and major remodeling or reconstruction of old plants which had become inadequate. The net result was that in 1963, out of 437 sewered municipalities in the state, 391, or 89.5%, had sewage treatment, as compared with 65% in 1945.

On the basis of total population of sewered municipalities served by sewage treatment, the percentage was 98.3% in 1963 as compared with 85.2% in 1945. As before pointed out, the population percentage was higher than the numerical percentage because the three largest cities in the state, embracing a large part of the state's total population, had sewage treatment plants. Furthermore, in 1963 there were 32 suburban municipalities connected with the Minneapolis-St. Paul Sanitary District plant, and these suburbs in the aggregate had a large population.

This increase in the number and population of sewered municipalities with sewage treatment was highly significant because it meant that all but a small fraction of them had recognized their obligation to provide sewage treatment and had spent large sums of money in fulfillment thereof. The estimated total cost of sewage treatment plants completed from 1945 through 1963 is $65,363,000, of which perhaps $8,300,000 was covered by Federal aid, leaving about $57,000,000 from local municipal funds. This represents a very substantial investment by the people of these municipalities in sewage treatment plants, and gives material evidence of their willingness to provide and pay for water pollution control.

Adequacy Of Sewage Treatment. However, the commendable record of progress in municipal sewage treatment reflected by the foregoing does not by any means give a complete balance sheet of the present municipal sewage disposal situation in Minnesota because it makes no allowance for depreciation or other factors which affect the adequacy of sewage treatment facilities to handle their loads. Every sewage treatment plant starts to depreciate physically as soon as it is placed in operation. Furthermore, its capacity is limited. As population and industry grow and water uses increase, the sewage load on the plant becomes heavier and heavier until finally the plant becomes overloaded so that the effluent falls below the required standards and thereby adds to the pollution of the receiving waters.

As a result of these combined factors of plant depreciation and overloading, it has been determined upon observations made by the staff of the Commission and the State Board of Health that out of 391 sewered municipalities in the state having sewage treatment in 1963, such treatment is adequate in only 294, or 75%, leaving 97 municipalities, or 25%, with inadequate treatment.

Here again the percentage based on number of municipalities does not furnish a complete measure of the total problem, because of the fact that the 97 municipalities having inadequate treatment include 32 connected with the Twin City plant, which handles a much larger volume of sewage than any of the others and is more heavily overloaded than the average (as will be discussed in more detail later).

The Commission and the Board have not had sufficient staff services or facilities to make all the observations and tests that would be required to measure closely the degree of treatment which is now being provided by all the inadequate municipal plants in the state, or to determine just how far the performance of each plant is below standard. However, from what is known about the Twin City situation (where extensive studies have been made both by the state agencies and the sanitary district), and from general observations made at other inadequate plants, it is estimated that the total sewage treatment now provided by the sewered municipalities of the state having treatment is not more than 60% adequate in the aggregate, leaving a deficiency of 40 per cent to be dealt with.

The cost of sewage treatment plant expansion and improvement needed to remedy this deficiency (without allowance for inevitable future increases in the sewage load) is estimated at about $22,800,000 for the 32 municipalities presently connected with the Twin City plant and about $13,200,000 for the 65 other municipalities having inadequate plants, making a total of $36,000,000 required to bring all the inadequate plants in the state up to par on the basis of existing conditions in 1963.

Summary Of Cost Of Needed Municipal Sewage Treatment Plant Construction, 1963. From the foregoing estimates the total cost of construction of sewage treatment facilities needed in this state in 1963 is as follows:

New sewage treatment plants for 46 sewered municipalities now without treatment	$6,000,000
Expansion and improvement of inadequate sewage treatment plants for 97 municipalities	36,000,000
Total	$42,000,000

Estimates of additional needs for the future will be discussed later.

Industrial Waste Control Program, 1945-1963. Beginning in 1945, the Water Pollution Control Commission applied the same general policy to industrial waste disposal as to municipal waste disposal, that is:

(1) The Commission refused to grant permits for any new discharges or extensions or modifications of existing discharges except upon conditions providing for adequate treatment;

(2) It carried on a program, as far as its means permitted, to secure improvement in the treatment or control of existing old discharges of industrial waste, giving

priority to the most serious and urgent cases.

New Discharges Of Industrial Waste. This program has been notably successful in preventing new discharges of industrial waste since 1945 without proper treatment or control. It is safe to say that practically all industries that have initiated operations involving the discharge of industrial waste of substantial consequence during that time have provided as good treatment or control facilities therefor as could reasonably be required.

Old Discharges of Industrial Waste. The problem of dealing with old discharges of industrial waste existing in 1945 was much more difficult. Although there were many serious cases of pollution from industrial waste, the most urgent problems which then and later demanded the attention of the Commission and its staff from the standpoint of public health as well as other interests were in the field of municipal sewage disposal. The continually increasing work load in connection therewith has been so heavy that the staff has never been able to do a thorough job of investigating and reporting on the old sources of industrial pollution in the state except in the more serious cases, and the action of the Commission in the industrial field has been limited accordingly. Nevertheless substantial improvement has been made in that field as a result of the efforts of the Commission.

Industrial Waste Treatment Progress, 1945-1963.

Appendix A (Previously referred to) shows the total number of industries, the approximate number having separate waste discharge outlets (not connected with municipal sewer systems), and the approximate number in the latter category providing treatment for their waste in the years 1948, 1957, and 1962, respectively. Because little was done in industrial waste control from the end of the war in 1945 until 1948, the figures for 1945 would be about the same as given in this table for 1948. The figures for 1963 have not yet been compiled, but will show some increase over 1962. Making allowance for this increase, the figures in Appendix D are fairly indicative of the progress in industrial waste treatment from 1945 to 1963 with respect to number and kind of industries. However, these figures do not reflect adequacy of treatment, as discussed later.

Decrease In Number Of Industrial Waste Outlets.

Appendix A shows a significant recent trend in the industrial field in that the total number of industries having separate waste discharge outlets dropped from 1,124 in 1957 to 935 in 1962, making a decrease of 189 outlets. The reduction occurred chiefly in the following types of industries: iron ore mines and concentrators, milk receiving and processing, poultry packing, and slaughtering, locker plants, fish packing, and related plants. In the iron ore industry these reductions were due to a substantial curtailment of mining operations. However, in the others the reduction in number of separate outlets was due in many cases to consolidations of small local plants in connection with the expansion of larger plants, with the result that the total volume of waste discharged in the affected industries was actually greater although the number of outlets was less.

Despite the decline in number of industries with separate outlets in recent years, there were a good many more of them in 1962 than in 1948. Furthermore, there was a substantial increase during the intervening period in the percentage of these industries providing some form of waste treatment, which rose from 34 per cent, or a little over one-third in 1948, to 51 per cent or a little over half, in 1962. There has been some further improvement during the past year, but exact figures for 1963 are not available.

At the same time there have been substantial improvements in methods of treatment and disposal or industrial waste. Many industrial plants have reduced the volume and polluting effects of their waste by installing systems for recovery of materials formerly wasted, by recirculation of waste water, by installing modern waste treatment facilities, and by discharging waste effluents through systems of land irrigation instead of into streams or lakes.

Adequacy of Industrial Waste Treatment. As with municipal sewage treatment, the figures showing the number of industrial plants providing treatment do not reflect the adequacy of treatment. Conditions in this respect in the industrial field differ greatly from those in the municipal field because municipal sewage from various sources is pretty much alike (with some exceptions in cases where the industrial waste load going into the municipal treatment plant is unusually heavy), whereas among the industries with separate outlets and treatment facilities there is a wide variety of types of waste and methods of treatment.

Furthermore, very effective methods have been developed for some types of industrial waste whereas for other types no fully successful methods of treatment have been discovered.

At any rate, the Commission's staff has never had the time or means to make the observations and tests necessary for a complete appraisal of the adequacy of all the industrial waste treatment facilities in the state. It has had to confine its attention to the more serious and urgent cases.

Summary Of Industrial Waste Control Situation In 1963. From the information available the industrial waste treatment situation in Minnesota in 1963 may be summed up generally as follows:

(1) Industries Discharging Through Municipal Sewer Systems. With respect to industrial waste discharged through municipal sewer systems, the adequacy of treatment in each case depends on the efficiency of the municipal sewage treatment plant. In many cases this is satisfactory, but in some cases where the industrial waste load is unusually heavy (as with the packing plant waste at South St. Paul) or is of such a nature that ordinary sewage treatment methods are not completely effective for the industrial waste (as with cannery waste or other special types of waste) the treatment of the industrial waste by the municipal plant is unsatisfactory, and the adequacy of the municipal plant is reduced accordingly.

(2) New Industries. With respect to new industries initiated since 1945 and having separate outlets, the treatment of their waste is generally satisfactory, but requires continuous inspection and supervision to make sure that the waste control facilities are operating properly and are not overloaded by increasing production or used for new types of wastes for which they are not adapted.

(3) Old Industries. With respect to industries having separate waste discharge outlets which originated before 1945, the over-all degree of waste treatment has substantially improved up to 1963. In some cases (of which most of the iron ore mines and concentrators are examples) the treatment now provided is quite satisfactory. In other cases where the treatment of waste is especially difficult and expensive (of which the paper and pulp mills are examples) the treatment now provided is more or less unsatisfactory and inadequate, varying from one industry to another.

CHAPTER II

SPECIAL PROBLEMS

In addition to the general problems described in the preceding chapters, the following special problems demand attention.

Special Problems: (a) Upper Mississippi River, Minnesota River, and St. Croix River. With the exception of a few small communities, all the presently sewered Minnesota municipalities on the Mississippi River, the Minnesota River, and the St. Croix River which did not have sewage treatment plants in 1945 have since installed such plants or have them under construction. Hence the municipal sewage situation on those waters is now under fairly good control, except for the overloading of the Twin City and South St. Paul plants. However, there are some separate industrial waste discharges on the Upper Mississippi and the Minnesota where the treatment provided, though better than before, is still unsatisfactory (for example, the paper and pulp mills at Grand Rapids, Brainerd, Little Falls, and Sartell, the beet sugar plant at Chaska, and the malting plant at Shakopee). These unsatisfactory industrial discharges aggravate the pollution in the affected waters below the outlets, but because of their small volume as compared with the total stream flow and their upstream location they do not add materially to the pollution load of the Mississippi River below South St. Paul. Even so, it is important for these industries, as well as all others discharging untreated or inadequately treated waste, to provide satisfactory treatment therefor. The Commission and staff are proceeding to deal with them as rapidly as their time and means permit.

Metropolitan Area

Special Problems: (b) Mississippi River At and

Below the Twin Cities. Before the construction of the Twin City sewage treatment plant, which went into operation in 1938, and the South St. Paul plant, which went into operation in 1940, the Mississippi River below South St. Paul was grossly polluted, with effects extending downstream through the interstate portion of the river as far as Wabasha. This situation was effectively relieved by the works above mentioned, and conditions in the river were quite satisfactory, with few complaints, until recent years when further degradation of the water quality occurred from the causes below described.

When the Twin City and South St. Paul plants were constructed, there were other smaller communities downstream in both Minnesota and Wisconsin that did not have sewage treatment plants, but all of them have since constructed such plants.

Onset of Present Pollution of the Mississippi River below South St. Paul. By the year 1954 the volume of sewage and industrial waste passing through the Twin City and South St. Paul sewage treatment plants had increased to the point where it was evident that they were in danger of becoming overloaded, with the result that the effluent would be inadequately treated and would cause unsatisfactory pollution conditions in the river below. This situation was due to the growth of population in the Twin Cities and their suburbs which had connected with the Twin City plant as well as in South St. Paul, with corresponding expansion of the industries in the area. This was a manifestation of the so-called population explosion which took place after World War II throughout the country, especially in metropolitan areas. When the Twin City and South St. Paul treatment plants were designed, it was contemplated that in time they would have to be expanded to meet future population and industrial growth, but no one foresaw that the population would multiply so rapidly in the metropolitan area served or in position to be served by these plants.

At any rate, when the danger of overloading of these plants became apparent, the Commission's staff pointed out to the authorities of the sanitary district and the City of South St. Paul the need for prompt action on projects for necessary expansion and improvement of their facilities to meet the impending increases in sewage and industrial waste loads.

The Board of Trustees of the Minneapolis-St. Paul Sanitary District responded by employing consulting engineers to make a complete study of the existing and future sewage and industrial waste disposal problems of the entire metropolitan area, with recommendations for solutions. This study was begun in 1956 and was completed with submission of the engineers' final report in 1961, at a total cost to the District of about $502,000.

It was evident from the findings and recommendations of this report, embracing not only the Twin Cities and South St. Paul but many large suburbs and adjacent lands comprising the metropolitan area, that the solution of all the problems involved was beyond the legal and financial capacity of the existing sanitary district and the municipalities concerned, and that in order to deal with these problems effectively additional state legislation would be necessary, either to enlarge the authority of the present sanitary district or to create a new sanitary district having jurisdiction over the entire affected area.

Bills for that purpose were introduced at the 1961 and 1963 Sessions of the Legislature, but failed to pass. Instead the 1963 Legislature inserted in Chapter 874 (the Rosenmeier Act before mentioned) some novel alternative provisions which, it is hoped, may help solve the metropolitan sewage problems, as will be discussed later.

Present Project for Expansion of the Twin Cities Sewage Treatment Plant. In view of the lack of action on the metropolitan problems by the 1961 Legislature and the urgent necessity for dealing with the overloading of the existing sewage treatment plant, the trustees of the present Twin City Sanitary District in 1962 initiated a project for expansion of their plant to the extent necessary to provide adequate treatment for the present sewage load, with additional capacity estimated to be sufficient to handle anticipated increase in load up to about 1975. Construction under this project is actively under way, designed for completion in 1966, at a total estimated cost of $22,800,000, considerably exceeding the cost of the original treatment plant and connecting works.

Assuming that corresponding improvements are made at South St. Paul, it is estimated that the operation of these works will provide treatment adequate to alleviate the present pollution of the river and meet the applicable standards set by the Commission as later described. It is estimated that this improvement will be effective until about 1975. Meantime further action will be necessary to meet additional increases in load to be expected thereafter.

Special Problems: (c) North Suburban Sanitary Sewer District. One of the most acute problems that arose in connection with the population explosion in the metropolitan area involved the plight of six contiguous and fast-growing suburban municipalities north of Minneapolis, with a total population of 57,547 in 1960, which had no sewer system. Septic tanks throughout these communities were overflowing and causing conditions that were both a public nuisance and a menace to the public health. Pursuant to a special act of the Legislature, Extra Session Laws 1961, Chapter 90, these communities joined in organizing the North Suburban Sanitary Sewer District, with power to construct and operate necessary sewage disposal and treatment facilities for the included area. At first the authorities of this district proposed to construct a sewage treatment plant discharging its effluent into the Mississippi River above the St. Anthony Falls Dam. However, the Water Pollution Control Commission promptly expressed its disapproval of this proposal and later adopted standards (as further discussed below) which would preclude any such outlet in this section of the river because of the possible danger to the Minneapolis water supply. This district has since altered its plans, and steps are now under way for connection with the Twin City system, under contract between the district and the City of Minneapolis. This will add to the load on the Twin City plant. The capacity of this arrangement is limited to an expectancy of about six years at the estimated rate of increase in tributary population. Meantime further action will be necessary to provide for the anticipated additional increase in sewage load above the capacity of the facilities now proposed.

Special Problems: (d) Local Sewage and Industrial Waste Discharges In the Metropolitan Area. The major sewage and industrial waste disposal problems of the Twin Cities and South St. Paul were quite effectively dealth with by their disposal systems as before described, until the same became overloaded. However, there are various minor sources of sewage and industrial waste which were not taken into the main systems and which are still discharging into the Mississippi River or its tributaries in the metropolitan area. Among these are old storm sewers in Minneapolis and St. Paul, through which some sanitary sewage is occasionally discharged with storm water directly to the river following heavy rains. There are also discharges from various small communities or industries in the surrounding territory.

Both St. Paul and Minneapolis have projects under way for construction of separate storm sewers which will progressively reduce the discharge of sanitary sewage above mentioned. Separate action will be necessary against the other discharges. In order to be prepared, if necessary, to enforce compliance with acceptable pollution standards for the affected portions of the Mississippi River and tributaries, not only with respect to the local discharges above mentioned but also the discharges from the main systems and all other possible sources of sewage and industrial waste in the area, the Commission in 1962 held hearings and in 1963 adopted pollution standards for the portion of the Mississippi River from the mouth of the Rum River to the Hastings Dam, including all tributaries except the affected waters to a degree never before actually attained. Of course, under the law, the standards are subject to modification as future conditions may require. At any rate, it is the aim of the Commission to maintain the highest standards reasonably attainable. Action contemplated by the Commission pursuant to these standards will be discussed later as part of the Comprehensive Plan and Program.

Special Problems: (e) The Minnesota River. The Minnesota River was not included in the 1963 standards before mentioned because of municipal and industrial sewage and waste disposal problems requiring further study. It is the intention of the Commission to adopt standards for that river as well as other waters requiring such action as soon as the necessary preparations can be made, as will be discussed later.

Special Problems: (f) Accidental Discharges of Oil From Storage Tanks. In the winter of 1962-1963 accidental failure of storage tanks or connecting facilities at the plants of the Richards Oil Company at Savage, Minnesota, and the Honeymead Products Company at Mankato, Minnesota, resulted in the escape into the Minnesota River and thence into the Mississippi River of large quantities of oil, causing extensive nuisance conditions along the Mississippi River in both Minnesota and Wisconsin and the death of several thousand waterfowl. No public water supplies were contaminated (there being none drawn from the affected portions of the rivers), and no other public health hazards resulted from the oil discharges. However, the loss of waterfowl aroused widespread public attention and the nuisance conditions were exasperating to the people affected.

Information of the Richards case first reached the offices of the State Board of Health and Water Pollution Control Commission on January 14, 1963, by telephone from the State Department of Conservation. Information of the Honeymead case was first reported by telephone by the sanitarian of the State Department of Health stationed at Mankato on January 23, 1963. Thereafter staff members of the Board and the Commission cooperated with the Department of Conservation in investigating both cases and making recommendations for remedial action.

Later the U. S. Corps of Engineers, through the office of the District Engineer at St. Paul, entered the cases and took similar action. From then on the representatives of the state agencies and the government worked together on the cases.

The loss of oil at the Richards plant was due to breakage of a pipeline connecting with a storage tank, caused by extreme cold weather. The breakage was reported to have occurred on Saturday, December 8, or Sunday, December 9, 1962, when the employees of the company were off duty, and was first discovered by them on returning to work on Monday, December 10. It was estimated that about 1,000,000 gallons of petroleum oil in the tank and pipeline escaped into the diked area around the plant and thence through culverts and a drainage ditch into the Minnesota River.

The loss of oil at the Honeymead plant occurred January 23, 1963, through rupture of a large storage tank containing about 2,500,000 gallons of crude soybean oil, the outburst of which also caused the release of other oil from some smaller containers nearby. Some of the oil, which was partially congealed on account of the cold weather, was recovered, but a large part of it flowed into the Blue Earth River near the plant and thence into the Minnesota River, later passing down into the Mississippi.

The passage of the oil downstream both from the Richards and the Honeymead plants was more or less retarded by the cold weather and the ice cover. The bulk of it, especially from the Honeymead plant, where the discharge occurred later and further upstream, did not reach the Mississippi River until the ice went out in late March and early April, 1963. Then many ducks arriving from the south on their spring migration got into the oil which was spreading on the open water. Some were saved by Conservation Department crews and others, but large numbers were killed.

On learning of the situation Governor Karl Rolvaag of Minnesota called the State Executive Council into session on April 3. They declared a state of emergency, and the Governor called out two units of the National Guard to attempt to confine or recover the oil. After experimenting with various methods, it became evident that it was not feasible with available means to confine, divert, or collect any substantial quantity of the oil, and on April 16 the National Guard units were dismissed except for a small clean-up crew.

On April 4 Governor Rolvaag requested Federal assistance. The U. S. Corps of Engineers was already active in the case as before stated. On April 9 the U. S. Public Health Service launched an investigation, which was thereafter conducted with the cooperation of the Minnesota Governor's Office, the National Guard, the State Department of Health, the Water Pollution Control Commission, the State Conservation Department (through the Division of Game and Fish), the State Attorney General's Office, the Wisconsin Governor's Office and Resources Development Division, the U. S. Corps of Engineers, the U. S. Fish and Wildlife Service, and the U. S. Coast Guard, together with interested private citizens and groups who volunteered their services. The field investigation continued through June, and after completion of laboratory tests on studies of samples taken, the U. S. Public Health Service made a report of its findings and conclusions.

The staffs of the State Board of Health and Water Pollution Control Commission and State Conservation Department also made reports. This commentary is based on the facts set forth in all of the reports above mentioned, which may be referred to for further particulars by anyone interested, together with other information in the files of the State Board of Health and the Commission.

It appeared from these reports that the petroleum oil from the Richards plant was cutting oil of light consistency, that it floated on the surface of the water, and that the greater part of it passed rather rapidly downstream after the spring break-up. However, because of delay on the part of the company management in installing control devices recommended by the staff of the Water Pollution Control Commission and the Corps of Engineers, some oil that had accumulated on the premises at the time of the original discharge continued to drain into the river and pass downstream for some time thereafter.

Because of its light consistency and comparatively rapidly passage downstream, the petroleum oil was only a minor factor in the loss of waterfowl or in the nuisance conditions. Where present it made objectionable oil slicks on the surface of the water, but left no serious lasting effects.

The soybean oil was heavier. In liquid form it was slightly lighter than water and would float, but on exposure to the air and water it formed sticky or stringy masses, some of which floated and some of which sank to the bottom. Most of the waterfowl damage was caused by this oil. The same was true of the nuisance conditions along shore, where the sticky residue from the oil coated beaches, docks, boats, and other objects, and was generally obnoxious. These conditions are persistent, though ultimately the oil and its residues will disintegrate and disappear.

No substantial direct damage to fish life was observed either from the petroleum oil or the soybean oil. A few dead fish were found along the Mississippi River, but no more than would normally be expected. However, the residue from the soybean oil, though not toxic, would consume more or less oxygen from the water, and where this residue accumulated on the bottom it would be harmful to bottom organisms or fish eggs and so would be detrimental to fish reproduction. However, evidence was lacking as to the extent of such effects.

The effects of the soybean oil above described extended along the Mississippi River and connecting backwaters from the Minnesota River down into and around Lake Pepin. Some evidences of the oil were found further downstream, but they were not serious.

By the middle of April the immediate crisis resulting from the main flow of oil was over and the bulk of the oil had been dissipated except for what had been impounded in the backwaters and small quantities of oil which continued to drain from the Richards premises but did not materially aggravate the detrimental conditions along the Mississippi as above described. The waterfowl damage occurred mainly in the early spring during the migration, and no serious losses of birds occurred thereafter. The effects of residual soybean oil on the shores and bottom of the river persisted more or less through the summer and into the fall of 1963. Later observations indicated that these detrimental effects had substantially diminished by the late fall of 1963 and will very likely have entirely disappeared by next summer.

Installation of Safeguards. Meantime the representatives of the Water Pollution Control Commission, the State Board of Health, the State Conservation Department, and the U. S. Corps of Engineers cooperated in efforts to secure installation by the Richards Company and the Honeymead Company of adequate safeguards to prevent a recurrence of the oil discharges such as those which had occurred at their plants. The Honeymead management were cooperative from the beginning in attempting to salvage as much oil as possible and keep it out of the river, and they have made studies for the purpose of installing facilities to prevent further losses of oil. The management of the Richards Company responded by installing the devices recommended both to prevent further drainage from the premises of oil that had already accumulated thereon from the previous accident as well as further losses. In the judgment of the engineers both establishments will have reasonably adequate safeguards against such losses when the devices recommended for the Honeymead plant are installed. The cost of these installations has not been fully reported, but it will obviously be substantial for both companies.

Legal Action On Account Of Oil Discharges. At a meeting of the Water Pollution Control Commission on March 28, 1963, the possibility of criminal prosecution or other legal action against the Richards Company and the Honeymead Company was referred to the Commission's legal counsel. He consulted with the legal counsel for the Conservation Department, and the matter was again discussed at a later meeting of the Commission where both were present.

It was evident that the oil losses in these cases were not continuing discharges of industrial waste but were accidental losses of valuable commodities, and hence that the provisions of the Water Pollution Control Act relating to abatement of continuing discharges of waste were not applicable. The public health laws were also inapplicable because no contamination of water supplies or other hazards to the public health had resulted from the oil losses.

Criminal Prosecutions. With respect to criminal prosecutions the case therefore narrowed down to two statutory provisions: (1) Minnesota Statutes, Section 101.42, Subd. 17, relating to pollution harmful to wild animals (including waterfowl, fish or other aquatic life), and (2) Minnesota Statutes, Section 616,01, relating to public nuisances. Violations of both these sections are punishable as misdemeanors by a fine of not more than $100 or by 90 days in jail, but not both.

The legal counsel pointed out that a mere unforeseen accident would not be grounds for criminal prosecution under either of these provisions. In order to support a conviction in either case it would be necessary to prove the following essential elements beyond a reasonable doubt:

(1) That some person knowingly committeed an act or omission which caused the discharge of the oil;

(2) That in consequence thereof the conditions specified in the applicable statute resulted.

Undoubtedly some of the conditions specified in the statutes above cited resulted from the oil discharges--that is, harm to wildlife and nuisance conditions. However, there was no material evidence that any individual connected with either company had knowingly committed an act or omission which resulted in these conditions. In both cases the failure of the oil containers was unforeseen and accidental. It is true that as a result of delay of the management of the Richards Company in installing control devices, some oil from their premises continued to drain into the river for some time after their first loss occurred. However, the only damage to wildlife attributable to the Richards oil involved a small percentage of the ducks that were killed early in the season. It would have been impossible to prove beyond a reasonable doubt that these ducks were killed by oil that drained from the premises after the first accidental discharge as a result of the failure of the management to install control devices.

Under the circumstances it was the conclusion of both the legal counsel that the available evidence was not sufficient to warrant a criminal prosecution or to sustain a conviction under either of the statutes above cited.

Furthermore, they pointed out that there was no express provision of law at that time under which the companies could be compelled to install safeguards to prevent further accidental oil discharges. It was necessary to secure their cooperation for that purpose. If an officer or employee of either company should be prosecuted and then acquitted for lack of sufficient evidence, the company would consider itself exonerated from further responsibility and would undoubtedly resist any proposal to spend money on safeguards.

Obviously the most important objective to be attained in the case was to secure the installation of safeguards to prevent a recurrence of the oil discharges. In consequence of these discharges both companies claim to have suffered heavy financial losses, which far outweighed the small penalities that could have been imposed upon them if convicted in criminal proceedings. Such penalities, if inflicted, in addition to the financial losses, would certainly have stiffened the resistence of the management of the companies to making further expenditures for safeguards. For these reasons, in addition to the lack of necessary evidence, the institution of criminal proceedings in these cases did not appear to be warranted in the public interest. The action of the companies in installing or agreeing to install the recommended safeguards has now demonstrated the soundness of the foregoing conclusions.

Findings of U. S. Public Health Service On Legal Aspects. The U. S. Public Health Service report commented on the legal aspects of the case as follows:

> "At the time of these oil spills, though several state agencies were involved to some extent in water and pollution problems, none had clear-cut responsibility and legal authority to enforce

> measures to insure proper storage of non-waste materials or to require salvage action and cleanup if an accidental loss occurred. Action was possible only if a public health emergency was created."

As before pointed out, there was no public health emergency, and otherwise there was no statutory authority for legal action by the state agencies under the circumstances of this case.

Civil Action by State or Federal Agencies for Loss of Wildlife. Minnesota has no statute establishing civil liability or prescribing civil penalities for loss of wildlife in such cases. In the absence of such a statute the state might have a common law right of action for such loss, but final determination thereof would be a matter for decision by the courts.

It is understood that the U. S. Fish and Wildlife Service has taken up with the Department of Justice the question as to whether the Federal government would have a cause of action against the oil companies for loss of the ducks. No decision in the matter has yet been announced.

Civil Actions by Municipalities or Private Property Owners for Damages to Property. Any municipality or private individual whose property was damaged as a result of the oil discharges would be free to sue the oil companies on account thereof, but in order to recover it would be necessary, of course, to prove negligence on the part of the company concerned under applicable rules of law. So far as known no one has yet commenced any such action.

Legislation and Future Action. Measures adopted by the State Legislature at the 1963 Session and action contemplated by the Water Pollution Control Commission to deal with the problem of accidental oil discharges will be discussed later.

Special Problems: (g) Oil Spillage in Connection with River Navigation. In the course of commercial navigation on the Mississippi River and connecting waters occasional spills of oil are bound to occur through accident or carelessness from tow boats or oil barges. Usually the quantities of oil lost are small and the effects are soon dissipated. However, spills of substantial volume may sometimes occur.

These oil spills have not been regarded as a public health hazard because no public water supplies are drawn from any of the affected waters (except from the pool above the St. Anthony Falls Dam in Minneapolis, where special safeguards will be required).

However, according to medical authorities, it is conceivable that human health may suffer seriously from the effects of even small quantities of oil or other foreign substances in the water with which people come in contact through swimming, water skiing, or other aquatic pursuits.

At any rate, oil getting into the water in any substantial quantity may injure fish, waterfowl, or other aquatic life and cause nuisance effects from oil slicks on the surface and oil accumulating on watercraft, beaches, docks, and other structures or objects in the water or along the shores.

No case in this category has yet come to the attention of the Commission where the evidence of either harm to fish or other wildlife or nuisance conditions could be proved with sufficient certainty to warrant a criminal prosecution under either of the applicable statutes before cited. However, commercial navigation on the affected waters is steadily increasing, with corresponding increase in the potential frequency of oil spills. The use of these waters for boating, fishing, swimming, and other recreational purposes which might suffer from substantial oil spills is also rapidly increasing. Hence these spills present a problem demanding attention.

Special Problems: (b) New Chemicals. An increasing flood of new chemical products used by industry or sold for use by the public has greatly intensified the problems of pollution control in recent years, and seems likely to get worse in the future. Many of these new products are difficult to treat by known methods, and some of them (such as so-called hard detergents) interfere with present sewage or waste treatment processes when present in sufficient concentrations. New chemicals used in industrial processes may be discharged through municipal sewer systems or through separate waste outlets, depending on where the industries are situated. New chemicals used by the public (such as detergents) are discharged into municipal sewer systems, septic tanks, cesspools, or other outlets, depending on where the homes, places of business, public buildings, or other sources are situated. These discharges of new chemicals occur without advance notice, and frequently are not discovered until they cause trouble. On the whole, new chemicals present a pollution control problem of continually increasing magnitude and complexity.

Special Problems: (1) Chemical Sprays. The widespread use of insecticides, herbicides, and other pesticides for spraying crops, trees, and other vegetation on both land and water has aroused serious concern over possible danger to human life, livestock, fish, or other wildlife from chemicals sprayed directly on the water or from residues washed off the land into lakes or streams by rain or melting snow. The problems involved are complicated and controversial, and are being extensively studied by federal and state agencies and other research establishments.

Obviously the ordinary methods for dealing with sewage and industrial waste would not be effective for controlling these sprays. If it is demonstrated by the investigations in progress that stricter control of chemical sprays is necessary in order to prevent pollution of waters, it will have to be applied by direct federal or state regulation of their manufacture, distribution, and use to a degree not yet undertaken.

Special Problems: (j) Atomic Waste. The use of atomic energy and the disposal of waste therefrom is under strict regulation by federal authority. In addition, in any case where waste from an atomic power plant or other installation is discharged into waters of the state, the plans and methods of disposal are examined with care under the direction of the State Board of Health and the Water Pollution Control Commission, and permits are required under strict conditions to insure against water contamination. As far as can now be foreseen, continuance of these measures should be adequate for effective protection of the waters of the state against harmful effects of this type of waste.

Special Problems: (k) Underground Waters. The original Water Pollution Control Act of 1945 applied only to surface waters, and conferred no authority over underground waters on the Water Pollution Control Commission. The

State Board of Health retained the authority which it already had over underground waters, exercised principally through the testing of wells and other sources of water supply and the imposition of restrictions against the use of any source that was found to be contaminated. In earlier years these methods were sufficient. However, as before pointed out, these powers of the State Board of Health were chiefly negative or prohibitory in character. The Board had no legal authority to require the adoption of affirmative or constructive measures (such as the installation of sewer systems) for protection of underground waters against pollution.

The need for such measures has developed on a wide scale in recent years with the multiplication of septic tanks, cesspools, and other underground outlets for disposal of sewage or waste from homes, public buildings, places of business, and even industries in communities or other areas not provided with sewers. Such discharges have been aggravated by two additional factors: (1) the increasing rate of use of water per capita through new devices (such as automatic washing machines, hydraulic garbage disposers, etc.), in addition to the sinks, bathtubs, and flush toilets or other water-using devices already in common use; (2) the increasing use of new chemical compounds as before mentioned (especially hard detergents), which cause trouble in sewage or waste disposal anywhere, but more especially underground.

Tests made by the State Board of Health in recent years showed that as a result of these conditions, more and more wells were being contaminated both by detergents or other chemicals and by potential disease infection borne by sewage or waste which had percolated through the ground from septic tanks, cesspools, or other outlets. In some of the more densely populated communities 50 per cent or more of the local wells were found to be contaminated. The contamination was steadily spreading in breadth and depth under the pressure of the ever-increasing amounts of polluted water being injected into the ground through the disposal facilities. In some places where the ground was completely saturated with such discharges the raw sewage from septic tanks and other outlets was overflowing on the surface, causing both disease hazards and offensive nuisance conditions (for example, in the North Suburban District before mentioned).

In cases where the contamination is entirely underground, the disease hazards can be alleviated, for a time at least, by stopping the use of water from the contaminated wells and installing public water supply systems drawing their supply from deep wells or other sources that are free from contamination. However, underground contamination is persistent, and in some cases it may in time penetrate to the deep wells if the use of septic tanks, cesspools, and other outlets draining into the overlying ground is continued. Sewage will travel long distances laterally or vertically through loose gravel diposits, limestone, or other permeable formations. Hence the only sure and permanent cure for a serious underground water contamination situation is to install both public water supply and sewage disposal systems and stop the use of underground sewage disposal devices entirely.

Underground water contamination problems are coming to light with increasing frequency in different parts of the state. Unfortunately, in most cases a large volume of pollution has already accumulated underground before its ill effects are discovered. It is difficult and expensive to tell how far the pollution has penetrated or will penetrate underground. The effects are long-lasting and hard to get rid of--much more so than surface water pollution. For these reasons, underground water resources of great value are in danger of serious and lasting damage from such contamination, especially in areas where the aquifers are in shallow gravel deposits or limestone formations, and where there are no deep water-bearing strata. Even the deep aquifers may ultimately be affected by the contamination,as before stated.

In this situation it is obvious that there is urgent and widespread need for action on the underground water pollution problems of the state. Now that authority over underground water pollution has been conferred on the Commission by the Rosenmeier Act before mentioned, this will constitute one of the major tasks of the Commission for the future.

Special Problems: (1) Marine Toilets and Disposal of Sewage and Other Wastes From Watercraft. Laws 1961, Chapter 333 (Minnesota Statutes, Section 361.29, as amended by Laws 1963, Chapter 313) regulates the disposal of sewage and other wastes from watercraft and the use of marine toilets. This act applies to all watercraft as defined by the so-called Boat Safety Regulation Act, Laws 1959, Chapter 592, Section 2, Subdivision 7 (Minnesota Statutes, Section 361.02, Subdivision 7). Under the 1963 amendment the Marine Toilet Act does not take effect until January 1, 1965 (postponed from January 1, 1963). The purpose of the postponement was to give the manufacturers of marine toilets and treatment devices and the operators of boats using the same time to comply with the applicable provisions of the Act.

This act prohibits the discharge into waters of the state from a watercraft of any untreated sewage or other wastes or the placing or discharging of any container of sewage or other wastes from a watercraft in or near any waters of the state so as to create a nuisance or health hazard or pollution of such waters.

The act also requires that any watercraft (except certain excepted classes) which is equipped with a marine toilet be also equipped with a treatment device acceptable to the State Water Pollution Control Commission.

Responsibility for enforcement of the act presumably rests upon the sheriffs and other local peace officers, the same as the Boat Safety Regulation Act, except for certain duties imposed on the Commissioner of Conservation, who is required to furnish the sheriff of each county with a list of treatment devices acceptable to the Water Pollution Control Commission.

Thus far, only four treatment devices have been submitted for evaluation for acceptance and only two have been accepted. The future work load of the Commission's staff under this provision will depend on the number of treatment devices submitted, and this will undoubtedly increase as the use of such devices increases.

Special Problems: (m) Work Load of the Water Pollution Control Commission. For some time after the Water Pollution Control Commission was created in 1945 it held regular meetings quarterly- the minimum required by the Water Pollution Control Act (Minnesota Statutes Section 115.02, Subdivision 2). As the work load increased, it was necessary to meet oftener. For some time past the Commission has held regular day-long meetings monthly, often running overtime, with additional special meetings for hearings or other purposes.

The three appointive citizen members of the Commission receive no pay for their services, being reimbursed only for their actual expenses incurred on Commission business. The four ex-officio members receive no extra compensation for their services on the Commission, and must charge their expenses on Commission business to their own department budgets (Minnesota Statute Section 115.02, Subdivision 1).

From now on the work load of the Commission will be much heavier, due to the growth of population and industry, with corresponding increases in the number and complexity of pollution problems as before outlined, also due to additional duties imposed on the Commission by the Rosenmeier Act and other recent legislation. In consequence still more frequent meetings of the Commission will be necessary, as well as hearings and other special services, all of which will increase the demands on the time of the members. In the past the members have shouldered the mounting work load as a matter of duty in the performance of an important public service, despite the lack of compensation. However, in the case of the citizen members the time spent on Commission business means a considerable personal sacrifice, and in the case of the ex-officio members it means that they must put in more overtime to do this work on top of their regular jobs. How much more work the members of the Commission can be expected to do under these circumstances without compensation is a problem for early future consideration by the Legislature.

Special Problems: (a) Work Load of the Staff. Pursuant to the provision of the Water Pollution Control Act before mentioned, the State Board of Health has designated the Section of Water Pollution Control to perform the technical and administrative services requested by the Commission in its administration of the Water Pollution Control Act. Personnel of the Section include public health (or sanitary) engineers, geologists, biologists, chemists, laboratory technicians, clerical help and others working under the direction of the Chief of the Section who serves as Executive Engineer for the Commission. In addition, other administrative and technical personnel of the Department of Health are occasionally called on to perform special services in connection withthe Water Pollution Control program, especially in cases affecting the public health.

Following is an outline of the duties of the Section of Water Pollution Control:

(1) Investigate water pollution problems of all

kinds, especially municipal and industrial sewage and waste disposal problems, including studies of plants and processes.

(2) Make surveys, investigations, and studies of lakes, streams, and other waters with respect to water quality, hydrologic conditions, and other factors for the purpose of establishing classifications and standards and for use in connection with particular sewage or waste disposal problems.

(3) Arrange for hearings on classifications and standards for waters and other matters; with the advice and assistance of legal counsel, prepare evidence and exhibits and present the same at hearings; review the evidence received, prepare reports thereof for consideration by the Commission, and prepare drafts for proposed findings, classifications, standards, or other action by the Commission pursuant to hearings.

(4) Examine plans and specifications for municipal sewer systems and sewage treatment and disposal facilities, and for industrial waste treatment and disposal facilities, inspect sites and areas involved, take samples and make tests of sewage or waste and receiving waters, hold

conferences with officials on design of facilities and requirements to be met, prepare conditions for permits and recommendations for action thereon by the Commission.

(5) Inspect facilities after construction as to compliance with plans and specifications and conditions of permits; prepare conditions for operating permits and recommendations for action thereon by the Commission.

(6) Inspect operating sewage treatment plants and industrial waste control facilities from time to time with respect to their efficiency and adequacy.

(7) Conduct training courses for operators of such plants and facilities.

(8) Keep files and records, carry on correspondence, collect and analyze data, prepare reports, and perform other clerical services required in connection with the activities of the Commission.

(9) Assist in preparation of information for Legislative committees and attend meetings of such committees to present the same when requested.

(10) Attend meetings of interested officials, organizations, or the general public and give information thereat when requested.

(11) Receive and review applications from municipalities for grants for sewage treatment plant construction from federal allotments, and develop information necessary for assignment of priorities therefor by the Commission (in addition to service on plans, specifications, and permits, as in other cases).

(12) Perform other services relating to water pollution control as occasion arises.

The most pressing of the duties above listed are those pertaining to services on plans and specifications and the issuance of permits for sewage treatment and industrial waste disposal facilities. Municipal projects in this category range all the way from short sewer extensions to the $22,800,000 expansion of the Twin City sewage treatment plant now under construction. Industrial projects range from small cannery lagoons to the complex waste control systems of giant paper mills. This work must go forward as rapidly as possible because without it there can be no construction of such facilities and no progress in that field of pollution control--the very core of the entire program.

This line of activity constitutes a major part of the work load of the staff. It is estimated that in the calendar year 1963 they have serviced a total of about 350 municipal and industrial projects, of which 80 were for substantial sewage or waste treatment facilities and the remainder for modifications, extensions, or other auxiliary works.

The staff of the Water Pollution Control Section has never had enough manpower or means to keep up with its work load from the beginning, for two reasons:

(1) The funds provided have not been sufficient;

(2) The prescribed salary scales for engineers and other professional positions have been so low that the Section could not compete with other public agencies or with private industry for qualified personnel, with the result that some key positions have gone vacant for extended periods, and much work that should be performed by personnel of high rank has necessarily been left to those with lower qualifications.

In consequence of the shortage of help and funds and because of the pressure of the sewage and waste treatment construction program as before stated, it has been impossible for the staff to give adequate attention to all the other things which they are supposed to do as before outlined. One of the most important lines of work which has necessarily been skimped for these reasons is the regular inspection of sewage treatment plants and industrial waste control facilities to check up on their operating efficiency and adequacy. This function is almost as important as the inspection of construction of the original facilities, and its effective performance is essential to the complete success of the water pollution control program. Present lack of inspection seriously hampers the program.

Another pinch on the short-handed staff occurs whenever an emergency case arises, such as the accidental losses of large quantities of oil on the Minnesota River in the winter of 1962-1963, as before described. Investigation of those cases and subsequent action to secure installation of safeguards and prevent further losses took much time and effort on the part of staff engineers, at the expense of other project work which had to be put off while they were working on the emergency cases.

The Water Pollution Study Commission, consisting of ten members of the Legislature, created by the 1957 Legislature, made the following recommendation in its report to the 1959 Legislature:

> "That the technical staff of the Water Pollution Control Commission be enlarged in order that the Commission may more effectively discharge its full legal responsibilities, and that a substantial increase in funds be granted to the Commission so

that it can perform these additional duties."

This recommendation has never been fully carried out. Some increases in appropriations for the Commission have been made, but they have never been enough to meet the needs before described.

The work load of both the Commission and the staff will be greatly increased as a result of the additional duties imposed on them by the Rosenmeier Act and other legislation enacted at the 1963 Session, as will be discussed later. Obviously no law, however drastic, can be fully effective unless sufficient means are provided for its administration and enforcement. This problem urges itself upon the attention of the Legislature.

Special Problems: (o) The Water Pollution Control Advisory Committee. The present Water Pollution Control Advisory Committee was created by a provision of the so-called Munger Act, Extra Session Laws 1961, Chapter 20, Section 3 (Minnesota Statutes Section 115.17). This Committee was patterned more or less after the national Water Pollution Control Advisory Board created by Congress under the Federal Water Pollution Control Act (Public Law 660-84, Sec. 7).

It was the hope of the Water Pollution Control Commission that the Advisory Committee would be helpful both in promoting the general water pollution control program and in stimulating construction of sewage treatment or waste disposal facilities by municipalities and industries located in the districts of the respective members of the Committee.

For reasons beyond the control of the Commission, the Advisory Committee has not been very active up to date. However, the Commission, with the cooperation of the State Board of Health, has secured insertion in the current appropriation budget of an item for the Committee's expenses and has also requested Governor Rolvaag to fill present vacancies in the Committee, hoping thereby to encourage the Committee to reorganize and undertake the active performance of its functions.

CHAPTER III

FUTURE ACTION PROGRAM

General Aims. The general aims of the State Water Pollution Control program are two-fold:

(1) To abate or control existing pollution;

(2) To prevent new pollution.

The pursuit of these objectives must be organized in specific tasks dealing with the various concrete problems described in the preceding chapters. A summary of the tasks demanding action follows. Details will be treated in succeeding chapters.

Summary of Water Pollution Control Tasks

(1) New Sewage Treatment Plants in Sewered Municipalities. Secure construction of new sewage treatment plants in 41 sewered municipalities now without treatment.

Progress will depend on financial problems and other conditions in the various municipalities concerned.

(2) Expansion and Improvement of Inadequate Existing Sewage Treatment Plants. Secure expansion and improvement of inadequate existing sewage treatment plants serving 97 sewered municipalities.

Progress will depend on appropriations by the Legislature for the cost of necessary inspections and surveys by the Commission's staff and on financial problems and other conditions in the various municipalities concerned.

Future inadequacies will be dealt with as they arise.

(3) Sewage Disposal for Unsewered Municipalities. Make surveys in 410 unsewered municipalities and other residential communities and take

action to secure construction of sewage disposal systems, with adequate treatment facilities, wherever necessary to prevent or control pollution of surface or underground waters or to avert other health hazards or nuisance conditions.

This task will continue indefinitely as residential development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys by the Commission's staff and on financial problems and other conditions in the municipalities and other localities concerned.

(4) New Industrial Waste Treatment Facilities. Secure installation of new waste treatment facilities in all industrial plants having separate outlets without such treatment, numbering over 450 and comprising nearly one-half of the total number of such plants in the state.

This task will continue indefinitely as industrial development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys by the Commission's staff and on financial and technical problems of the industries concerned.

(5) Expansion and Improvement of Inadequate Existing Industrial Waste Treatment Facilities. Secure expansion and improvement of existing waste treatment facilities at all industrial plants where such facilities are inadequate, comprising a large percentage of the old plants of the state, for which exact figures are not available because of insufficient means for making the necessary inspections by the Commission's staff.

This task will continue indefinitely as industrial development proceeds. Progress will depend on appropriations by the Legislature for the cost of surveys and inspections by the Commission's staff and on financial and technical problems of the industries concerned.

(6) Twin City Metropolitan Area Sewage Disposal Problems. Require the making of adequate provisions for future increased sewage flow expected from the Twin City Metropolitan Area before treatment facilities become overloaded and critical conditions develop.

This task will continue indefinitely as population increases. Progress depends on action by the Cities of Minneapolis and St. Paul and the present Minneapolis-St. Paul Sanitary District on comprehensive plans in progress under Chapter 882, Laws of 1963, on subsequent action thereon by state and local authorities under the Rosenmeier Act, on the enactment of new measures by the Legislature to deal with problems for which the provisions of the Rosenmeier Act may prove inadequate, and on financial problems and other conditions in the affected area.

(7) Minor Sources of Pollution in the Metropolitan Area. Secure abatement or control of minor sources of sewage and industrial waste in the Twin Cities Area and surrounding territory not taken into the present disposal system.

Plans and projects are now in progress for accomplishment of this task.

(8) Storage of Oil and Other Liquids or Substances. Regulate the storage of oil and other liquids or substances under the applicable provisions of Chapter 874, Laws of 1963, to insure installation and maintenance of adequate safeguards against pollution of surface or underground waters.

The Commission is in process of adopting regulations on this problem.

(9) Oil Spillage on Navigable Waters. Regulate

transportation and handling of oil and other liquids and substances on navigable waters so as to protect the waters against pollution from spillage.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of necessary inspection and enforcement services by the Commission's staff or other agencies as authorized.

(10) New Chemicals. Provide for the control of new chemicals used by industry or the public so as to prevent creation or aggravation of water pollution problems therefrom.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of surveys and research by the Commission's staff or other agencies and on financial and technical problems of the industries or localities concerned.

(11) Chemical Sprays. Provide for the control of chemical sprays so as to prevent creation or aggravation of water pollution problems therefrom.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of surveys and research by the Commission's staff and other agencies, on action by Federal authorities, on financial and technical problems encountered, and on other unforeseeable conditions.

(12) Radioactive Wastes. Keep watch over atomic power plants and other establishments using radioactive materials to assure adequate safeguards against pollution of waters from their wastes.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of surveys and research by the Commission's staff, on action by Federal authorities, on financial and technical problems encountered, and on other unforeseeable conditions.

(13) Recreational Pollution of Lakes and Streams. Provide for protection of lakes and streams against pollution incident to boating and other recreational use, through regulation of marine toilets and other measures.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for the cost of testing treatment devices by the Commission's staff, on the efficacy of enforcement by the Commissioner of Conservation and local authorities, and on other unpredictable conditions.

(14) Surveys of Surface Waters. Make continuous systematic surveys of all streams, lakes, and other surface waters into which sewage or industrial waste is or may be discharged to determine present and prospective conditions relating to pollution and to obtain information needed as a basis for classification of waters and establishment of standards, for prescribing sewage and waste treatment requirements, for checking on the efficacy of sewage and waste treatment facilities, and for determination of progress in pollution abatement or control.

The task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

(15) Survey of Underground Waters. Make a state-wide survey of underground waters to determine the nature, location, and extent of present and prospective pollution from all sources as a basis for instituting measures to deal therewith, and thereafter conduct continuous surveys of those waters for the same purposes as above described for surface waters.

There is urgent need for an immediate

survey because of the recent extension of the Commission's authority to underground waters by Chapter 874. Further surveys will be needed from time to time. Progress will depend on appropriations by the Legislature for cost of the work.

(16) Inspection of Sewage and Waste Treatment Facilities. Conduct continuous inspection of all sewage and waste treatment and disposal facilities to determine the efficacy and adequacy thereof as a basis for correcting faulty operation and requiring improvement or expansion of facilities when necessary to handle increased sewage or industrial waste loads and meet the standards or conditions prescribed for adequate treatment.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

(17) Qualifications and Schools for Sewage Treatment Plant Operators. Provide for a more effective certification program for sewage treatment plant operators and conduct more extensive short-course schools for their training.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

(18) Research. Conduct systematic research on sewage and waste treatment methods and facilities, on new chemicals and other pollutants, and means of dealing therewith, and on other pollution problems, in furtherance of the development and adoption of the most effective means for prevention, abatement, and control of all types of water pollution.

This task will continue indefinitely. Progress will depend on appropriations by the Legislature for cost of the work.

(19) Classification and Standards. Classify and establish standards for waters, especially where necessary for enforcement purposes.

This task will continue indefinitely. Progress will depend on need for action for pollution control in the affected waters, and on appropriations by the Legislature for the cost of the work.

Details of the foregoing problems will be dealt with in succeeding chapters. It is the aim of the Commission to promote aggressive action on all of them, so far as means for doing the work are provided, to the end of expediting the accomplishment of the highest degree of water pollution control attainable throughout the State.

MINNESOTA DEPARTMENT OF HEALTH
Division of Environmental Sanitation
Section of Water Pollution Control

Industrial Waste Treatment*
July 1, 1963

Industry	Total Number of Industries			Approximate Number of Industries Having Separate Discharge			Approximate Number of Industries Providing Treatment		
	1948	1957	1962	1948	1957	1962	1948	1957	1962
Beet Sugar Processing	2	4	4	2	4	4	2	4	4
**Brewing & Malting	21	17	15	20	16	5	2	3	4
Canning, Freezing, Pickling & Related	36	46	48	30	30	32	24	28	20
Chemicals, Synthetics, Fertilizers & Related	5	3	11	5	3	9	1	3	9
Electric Power, Steam & Nuclear Reactors	11	17	20	11	17	20	5	8	9
Gravel Washing, Non-Ferrous Mining & Related	50	50	100	50	75	100	2	15	34
Iron Ore Mines & Concentrators	119	281	198	119	281	198	40	180	193
Meat Packing	11	12	14	4	5	6	2	3	6
Metal Plating & Treating & Maintenance Shops	5	17	32	2	8	16	0	5	8
**Milk Receiving & Processing	698	776	581	370	400	299	125	137	80
Paper, Pulp & Related	7	8	8	7	8	8	7	8	8
Petroleum Refining	2	4	4	2	3	4	2	3	4
Potato Processing	1	3	6	2	8	16	0	5	8

Industrial Waste Treatment* (cont'd)
July 1, 1963

Industry	Total Number of Industries			Approximate Number of Industries Having Separate Discharge			Approximate Number of Industries Providing Treatment		
	1948	1957	1962	1948	1957	1962	1948	1957	1962
Poultry Packing	58	73	60	25	31	13	[illegible]	1	8
Rendering & Mink Food	23	25	28	21	24	19	10	22	19
**Slaughtering, Locker Plants, Fish Packing & Related	316	594	501	105	196	166	40	75	64
Steel Mills &	2	2	2	2	2	2	0	2	1
Tanneries	2	2	3	1	1	2	0	1	1
Vegetable Oil Extraction	4	6	7	4	5	4	4	4	3
**Woolen Mills & Textiles	11	9	6	5	4	1	1	1	0
Laundromats	0	50	100	0	12	25	0	1	2
Totals	1,384	1,996	1,748	784	1,124	935	267	503	479

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*Some figures estimated and not checked in detail.
**Not including first class cities.

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